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Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Articles.

A FEW THOUGHTS ON MEDICAL LIFE INSURANCE.*

BY W. ED. GRANT, M.D.

Member of the Louisville Clinical Society, Jefferson County Medical Society and Kentucky State Medical Society; Professor of Anatomy and Medical Life Insurance in the Medical Department of the Kentucky University; Professor of Anatomy in the Louisville College of Dentistry; Chief Medical Examiner for the New York Life Insurance Company in Louisville, Ky.; Medical Examiner for the Provident Savings Life Assurance Society, United States Life Insurance Company, Manhattan Life Insurance Company, Nededlands Life Insurance Company, Penn Mutual Life Insurance Company, State Mutual Life Insurance Company, of Massachusetts, Security Mutual, of New York.

While the medical examiner needs the knowledge of his profession as urgently as the medical practitioner, he needs some other qualifications that the general practitioner might be able to get on well without. He must be a close observer of what the general public would call "healthy men," quick to detect with his eye symptoms of impaired health which would easily escape the notice of a good general practitioner, who has accustomed himself to have his attention called to supposed or real illness before he begins even to look for symptoms. He must be an industrious man, always willing to aid in pushing obstacles out of the way which delay action in the movement of business in hand. He must not permit himself to be harrassed with details; they are a part of the work entrusted to his care, and must be taken as a matter of course. He will often find his patience sorely tried, but this only emphasizes the necessity of another very important qualification essential to his success as a medical examiner, namely, patience. He

* Read before the Louisville Clinical Society.

must be a tactful man, courteous, accommodating, disingenuous, with a kind and friendly bearing, to put the applicant at ease and gain his respect and confidence. These are the qualifications that help the diplomat in affairs of State, and medical examiners are diplomatic agents, sent by the company to secure confidential information about a business matter, and he who succeeds best in getting the desired information is the best examiner. The medical examiner must be a resolute man with the courage of his convictions, but have tact enough to avoid friction either with the applicant or the agent. For while he is under obligations both to the agent and the applicant, these obligations are the outgrowth solely of the service he is in honor bound to render his company, and all that he does is done with the view of protecting the interests of the company he represents; for, if he does not feel that he is the watchdog of his company's treasury and that he is as anxious and determined to protect it as he is to protect his own, he has a wrong impression of the position in which his company has placed him, and of the service they, under the circumstances, have a perfect right to expect. In fact, a proper appreciation of the fact that the company's interests are the examiner's interests is the foundation upon which is reared the superstructure of all good work done by a medical examiner. It is this that make him unmindful of the hardships which so often obstruct his pathway and make it rough when cases have to be seen at unseasonable hours, and hunted up again and again because of broken appointments, or lack of an applicant's ability to give a full and complete family or personal history, or pass a specimen of urine. A little thought and reflexion will, in a short time, make an examiner a competent judge of a complete examination, and one should never leave his hands until he is certain that it contains a record of all the information which he is expected to secure, and if anything is lacking he must be able to say conscientiously that he has left no stone unturned that might have revealed the missing link.

A good medical examiner must be what we might call a good off-hand clinician. We begin an examination of an applicant as soon as he comes within reach of our vision. We are studying his build, his gait, his carriage, the expression of his eyes and face, his complexion and muscular development. What does an indifferent physique sugfiest? The applicant may be too tall, too fat, too lean or too small. Our first thought is, this man is not up to the standard, and we are on the alert to confirm or disprove the conclusion we have jumped to at first sight. His build may be a family characteristic, and the family

history may in a measure overcome the defect. Not so with some other defects that are observed at first sight, such as a bad color, a shambling gait, puffy eyelids or a face expressing melancholia. It is well to follow up first impressions, giving them due weight, and not permitting them to be brushed lightly aside by the assurance of the applicant that he "feels fine and has always been in good health."

Notwithstanding the fine words which are in every agent's mouth about protecting the widow and the fatherless children, life insurance is a commercial transaction. A merchant who has stocked his house with merchandise begins to look about in different avenues for customers to sell his goods to at a profit. If he depended upon his individual efforts this could never be done in a large business. He must have employes—honest ones—who are at all times watchful of his interests if the business succeeds. His goods are for sale, and for sale at a profit, and if one of his employes sells good on time to a dead beat, he has injured the business to that extent, and is unworthy of the confidence he has betrayed. The simile holds good in the business of life insurance. The company has a large stock of policies on hand, and has employed salesmen to put them on the market. The medical examiner takes the place of the credit man of the business; he sees that no trades are made where it is evident that a loss, instead of profit, will result from the transaction.

In making examinations the examiner has an examination blank to guide him, but he is not a machine to fill up a blank with any answer the applicant gives to the question. If he understands what information the query seeks to elicit he will have an important guide to aid him in getting that information, and when he has secured it he should record it in the proper place, using only enough words to make the answer complete. The sign-board to guide him in making a good examination reads as follows:

"Get the facts, and record them as briefly as possible to make the meaning clear; never write an opinion on the blank without giving a reason for it."

The Medical Director does not need the examiner's opinion if he has already given the reasons why he arrived at the conclusion. Few examiners appreciate the fact that the Medical Director is altogether impersonal in what he does. He is like a judge who reads a brief with a view of deciding the case in which he has never seen either of the lawyers, plaintiff or defendant. He is guided in his decision by the application of the law to the written facts which have been laid upon

his table. He has the examination paper which represents the brief and the facts which represent the law to help him to reach the conclusion. If any personal influence could persuade him to go contrary to his own judgment, based upon the law and the facts, he is jeopardizing the interests of his company and putting himself in the position to be severely criticised by the company who through his error has to pay a death loss.

Examiners are prone to complain of the examination blanks. The queries seem too numerous and meaningless. If, however, we take the pains to analyze any one of these questions, and follow it up with a cross-examination, and see what facts it can bring out if the answer is complete, we will soon see the question has found a place on the blank because much experience has determined its importance. Questions that seem at first glance unimportant, if followed out through all the avenues they lead to, bring us face to face with grave diseases which are dormant at the time of the examination, and might otherwise be overlooked. The questions about identification seek to prevent a fraud. A mark of identification has the same object in view, and may be of value to applicant's heirs in some cases. A specific answer to question about present and past occupation is a safeguard to the company which keeps out many risks that are undesirable. We have only to turn to statistics which relate to mortality in different occupations to convince us of the importance of occupation and environments.

Habits, Liquor and Drug.—I do not think any of us question the importance of these, yet the ones relating to alcoholics are often answered in a careless and unsatisfactory manner. We may know a man and think he is temperate, but our saying so is not satisfactory to the Medical Director, who does not know and has never seen him. We must give the reason for our opinion, namely: that he takes one drink a month, or one a week, or that he takes one ounce of whisky a day, or three pints of beer each day. These answers give exact information which will enable the Medical Director to arrive at the conclusion we have reached because he has the exact facts to guide him. To say that he is a "moderate" drinker, or a "social" drinker," "has no habit," or "occasionally a drink," leave room for guess-work, and give no positive information on which to found an opinion.

The following information is required by an important Life Insurance Company in all cases where the applicant has ever used wine, malt or spirituous liquor to *excess* or has ever been *intoxicated:*

"A. Are you a total abstainer? _____ If so, how long have you been so? _____

B. Did you ever have any form of "nervous prostration," or disease of the digestive organs caused by the use of alcoholic stimulants? _____ If so, give full particulars as to date, duration, symptoms and results_____

C. Have you ever been under treatment for the use of alcohol or narcotics? _____ If so, when and where? _____

D. Do you drink every day? _____ Do you drink before breakfast? _____ Or before luncheon? _____

E. If you have no daily habit, but occasionally use alcoholic drinks, do you ever exceed per day the equivalent of any single one of the following amounts: Three (3) ounces of ardent spirits, four (4) wine glasses of sherry or other strong wine, one "pint" bottle of claret, hock, champagne or other light wine at meals, three (3) tumblerfuls of strong ale or porter, four (4) or five (5) tumblerfuls of light ale or beer?

F. Do you drink in excess of the above, but not to intoxication? _____ Have you ever had Delirium Tremens? _____

G. How often have you been intoxicated? _____ When was the last occasion? _____

I warrant the above statements to be material and true, and agree that they shall form a part of the consideration for insurance applied for by me.

(Signature of applicant.)

Dated at _____ the _____ day of _____ 190 _____

_____"

(Address, No. and street)

Drug habits, such as opium and cocain, are more disastrous in their effects than alcohol, and much more difficult to establish.

Previous Rejections—A very important question, and one an examiner is apt to pass over lightly. Men do not like to admit rejections, and consequently they believe most willingly any excuse an agent offers in explanation as to why they did not get a policy they had applied for. For instance, they are told the papers were not forwarded to the Home Office, or "the agent had some trouble and quit his company," and therefore the policy was not issued. The question should be: Have you ever made an application for insurance to any company when the policy was not issued as applied for? Applicants never gain anything by trying to keep hidden from an

examiner the fact that they have been declined. The different companies keep each other posted about bad risks just as the merchants of the country keep others posted about customers who buy on credit and never pay. The applicant simply makes a bad impression on the Medical Director, and may by his duplicity put a stumbling block in the path of the examiner, which will cause him to make a bad impression, too. In answering questions relative to past diseases a comprehensive view should be taken of the pathology of each affection inquired about. Suppose, for instance, an examiner takes an answer from an applicant like this about colic: "Occasional attacks of colic due to imperfect digestion." That sounds simple, but it is only the applicant's statement and his opinion. It may be correct, and he may give reasons that will convince the examiner that it is correct, but the reasons have not been given in the answer recorded. The examiner should ask himself: What are the pathological conditions which may produce pain like an attack of colic? And he will be surprised when he begins to count them on his fingers, and thinks of the gravity of some of the diseases they suggest: Appendicitis, gall stones, strangulated hernia, passage of renal calculi, floating kidney, aneurysm of abdominal aorta, locomotor ataxia, lead colic, etc. All of these must be eliminated, and satisfactory reasons given why we agree with applicant in the statement he has made. Frequent headaches may come from a dozen different causes, and if he does not run them over in his mind and ask questions enough to eliminate the possibility of their having an origin which would suggest a grave disorder, he is doing imperfect and unsatisfactory work. I do not wish to convey the impression that an examiner should write a lecture on the blank about each disease applicant has had, but he must go over in his mind the whole subject as if he were about to write a lecture on it, and then in a few words write his conclusions and give his reasons why.

The personal added to the family history brings out the tendency of the individual to certain diseases, those we call hereditary, such as syphilis, insanity, cancer, phthisis, rheumatism, diabetes and asthma. It is of the utmost importance that the facts be made clear about the existence or non-existence of these diseases in the family, and if they belong to the record make it full enough to take it all in. The Medical Director will know its importance without any comments from the examiner.

An examiner will do good work in getting up the family history if he thoroughly understands why the questions are asked. In addition

to the above seven diseases, just mentioned as hereditary, a tendency in the family to alcoholism should not be overlooked.

An examiner should avoid terms that are not explicit in giving the cause of death, such as "grief," "broken heart," "don't know," "fever," "malaria," "old age," etc. These are not direct causes of death. They may help to prepare a fertile soil in which seeds of disease are sown. It is true the applicant may truthfully answer a question "don't know," but if it is important that the query should be answered correctly the examiner can procure the answer if it can be secured at all. It often costs him trouble, but it is a part of his duty and can not be shirked. Somebody can answer the question, and he must find out who that somebody is, and turn to them. He may write a short note and ask them to answer the query appended to the note, and return the sheet to him in an enclosed stamped envelope. This will in nearly every case bring a satisfactory reply.

When to take the pulse? The best time is just after the family history has been recorded, before beginning the physical examination, in order to avoid nervous influences as much as possible. It is well to attract the applicant's attention to something foreign to pulse taking, and then in a casual way count the number of beats, and note the character and rhythm. Intermission, very rapid, very slow and atheroma are points to watch carefully for.

In studying the heart, first inspect the chest, note the apex beat and the general shape of the thorax. Place the ear over the site of the different valves; keep it there long enough to make out both sounds and see that they are normal. The most common murmurs are the mitral regurgitant, heard near the apex, and are systolic in time. The hemic murmur is also systolic, but heard most frequently at the base, over the pulmonary area, and is associated with anemia. A few years ago all applicants with heart murmurs were rejected, but now many companies are offering some form of insurance to cases where compensation is good, particularly in the mitral form, as damage due to them comes on more slowly than in the case of other organic heart murmurs. The points in regard to heart murmurs are: The time, the point of maximum intensity, direction of transmission, the rate of the pulse before and after exercise, the location of the apex beat and history of cyanosis.

It is hard to do thorough work in examining the lungs for want of opportunity. So many applicants have to be examined at their place of business, where it is difficult to get quiet surroundings in a private

apartment. The outer shirt should be removed. It is not safe to roll it up from below, because to incipient phthisis, the worst foe to life insurance companies the examiner has to combat, first appears in the apices of the lungs, and this part of the chest must be carefully examined both front and back, and at the upper part of the axillary space. Generally this can be done in the toilet room when we go there to get the specimen of urine. Applicants do not object to what agents may call "unnecessary trouble," for they like to feel that the doctor has made a thorough examination. They remember all the details perhaps for the remainder of their lives, and like to tell about how the doctor, after a most careful examination, recommended them as a "first-class risk."

The danger signals to watch for in beginning phthisis are light weight, expansion on the affected side less than on the other, rapid pulse rate and slight elevation of temperature. It takes a little time to take the temperature, but if the examiner will put the thermometer in applicant's mouth, show him a bottle, and ask him to step out in the closet with him and fill the bottle with urine, the temperature will be recorded by the time he has urinated, and he has had no opportunity to say, "It is not convenient now to give the urine, please call again." A wide mouth two-ounce bottle is the best to get the urine in. The sources of annoyance along this line are very low or very high gravity, a small specimen of urine, albumen or sugar. Look at the urine, as if the gravity is low the examiner may at once make arrangements for a second specimen, that he may see if the trouble is temporary. Heat and nitric acid are the best tests for albumen and Hanes' Solution for sugar. If eight drops of urine in a drachm of boiling Hanes' Solution change the blue color in a moment or two to orange that applicant's hopes of insurance are about nil. The presence of albumen is often not so serious, as in very many cases it does not mean Bright's Disease, as a further study of the specimen will show.

For several years I have been teaching the students of the college where I lecture how to make life insurance examinations. The first thing taught them is that their interest and that of the company is identical, that they must conduct the examinations and do all they are expected to do exactly in the same spirit that they would manifest if they were making a trade by which they agreed for a consideration, of say $50 paid to them each year, to pay to applicant's heirs $1,000 if he died before the end of twenty years. I teach them to feel that they are on friendly, confidential terms with the Medical Director, and that

they must give him all the advice they think will help him in deciding whether or not it is safe to sell a particular applicant a policy. Then, after going over with them the ground I have tried to cover in this paper, I teach them that while as physicians they are expected to be good diagnosticians; that they must become, through observation and study, good prognosticians, not for what will likely follow in a few days, or a few weeks, or even a few months, but for what is likely to take place in a given individual's health in the next twenty years. In order to do this accurately and well, they must weigh many factors. Occupations, present and past, count; environments and habits count, and so do past diseases with their sequela. Family history with the hereditary tendencies, particularly tuberculosis, disclosed by it, must be carefully considered. The build and complexion of the individual, together with the rate and character of the pulse, help them in their prognosis.

It is in the power of medical examiners to do more to protect the treasury of a life insurance company than any other of their employes. On the other hand, they may do great harm. Therefore, if they have any pride in work well done; if they have any pride in demonstrating their value to the life insurance world, they will work carefully and conscientiously, remembering always the relation they bear to the success of the company whose interests they are employed to protect.

TONSILLAR HYPERTROPHIES.*

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For any one practicing special lines of medicine, I consider it rather a difficult matter to select and write on a subject which shall be of interest to members of this Society. This is partly because of the fact that our daily routine work is so different from that of the general practitioner, but mainly, however, because it will necessarily be a somewhat difficult matter to avoid any semblance of pedantry in my calling your attention to certain organs in health and disease, the evils of which in the latter condition I belief as professional men we are not familiar enough with, or if so, are in a measure negligent of, if we do not insist on an early and vigorous attempt to abate those evils. I refer, of course, as the title of this paper indicates, to tonsillar tissues; how we shall recognize their diseased conditions, and what those

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diseased conditions can and do produce, mentioning little, if anything, in the way of treatment, but endeavoring, if I can, to impress upon you the seriousness of them by showing how detrimentally such small organs can and do act in the human body. I hope to point out, also, certain diagnostic points by which we may know that these tissues are abnormal or diseased, and are producing, as diseased structures generally do, pain, serious interference with function, nutrition and development, and in some instances the destruction of a special sense. The faucial tonsil, of which we are most apt to think when the word tonsil is mentioned, is only one of several other aggregations of lymphatic tissue distributed pretty generally throughout the body, Peyer's Patches, for instance, having often been called "the intestinal tonsil." In this paper, however, only the tonsillar tissues, forming what is called "Waldeyer's Ring," and composed of the faucial, pharyngeal, lingual and tubal tonsils are being considered.

Not to go too deeply into histology, we can say that abnormalities or hypertrophies in these regions are not new growths, but overgrowths or hyperplasias of normal lymphatic tissues, or rather a multiplication of the lymphatic cells of that retiform tissue, containing numerous crypts or follicles, the whole externally being enclosed in or by ciliated columnar epithelium. They produce practically no secretion when normal; nor are they absorbent unless their epithelial surface is rarefied or broken, which may happen if their increase is great or relatively fast in this hypertrophic process, or if abraded, as they often are in the case of the faucial tonsils by the constant irritation of food or other foreign swallowed substances. We have every reason to believe from their formation that like other lymphatic structures they are blood elaborating in function, Frankel having shown quite satisfactorily that the special part in this blood elaboration is in the formation of leukocytes in large numbers, which extruding through the numerous lymph follicles by their phagocytic processes exert a very destructive action on toxic germs or substances with which they come in contact, and which otherwise might gain entrance through these follicles. These facts are fairly well established; there is much yet, however, to learn concerning them, and right here it may be well to call attention to the fact that there is among some of the profession, as well as the laity, much of ignorance and superstition connected with these organs. Some of you may have heard that to remove or ablate the faucial tonsils ruins the singing voice, that it stunts growth, that the Almighty put them there, and are we not very presumptuous or even blasphemous,

in saying that they should be removed? and, even more absurd, it has been claimed that their removal arrested sexual development. I myself have had patients tell me that their doctors had made one or the other of these statements to them. I hope to show the utter fallacy of the first mentioned objections as I go on, while as an answer to the latter, I can only quote Lennox Browne as stating explicitly: "That while hypertrophy of the tonsils tends to arrest sexual development, their removal favors it." It has never been shown that atrophy of the faucial tonsils has in the least produced any deleterious influence on any other organ or the system generally, and the statement one may hear that the removal of them may produce dryness of the throat will be hard to substantiate when we consider the small part they play in furnishing buccal or pharyngeal secretion, and also the possibility of the dryness being produced by other concomitant agencies, such as mouth breathing or an atrophic condition of the nasal or pharyngeal mucous membrane. The factors favoring lymphatic hypertrophy are many; any toxic substance circulating in the blood, especially if protractedly, favors it, the point of selection or deposit of uric acid or other substances producing arthritic conditions is often found in the faucial tonsils, and the rheumatic throat often seen with no other manifestation of rheumatism. These common sore throats of children, associated with "growing pains," unaccompanied by any marked lacunar or follicular inflammation, yield promptly to anti-rheumatic remedies, while peri-tonsillitis or quinsy is thought by many to be more especially rheumatic than any other form. Climate, especially if cold, damp and variable, producing repeated coryzas; heredity, or transmission of the parents' facial or mental characteristics or even gait, which I take we are all willing to admit do occur, requires little urging or insistence to show would as likely occur in reproducing abnormally narrow nostrils or other faults of the air passages which would predispose to these disorders. The infectious fevers, as measles and scarlet fever, play, however, by far the most important role in their production. All forms of anemia predispose to lymphatic enlargement. Cardiac, hepatic and intestinal conditions of venous stasis seem especially to manifest themselves in engorgement of the mucous membrane of the respiratory tract. Kyle claims intestinal indigestion and worms in the child are potent predisposing factors. Bosworth claims an acute rhinitis is rarely met with in a child, and that in most instances when a child has an apparent "cold in the head" it is really suffering from a subacute inflammation of the pharyngeal tonsil, a

normal organ, but undergoing hypertrophy when the process is frequently repeated. We are given to saying, when these symptoms appear in children, that they are of a scrofulous or strumous diathesis, the "lymphatism" of the French, but whether the struma has been induced by these conditions or the conditions have induced the struma is not for discussion here, excepting to say that time and again by removal of the causes which work so detrimentally to the health of the child the struma often disappears like magic, for in removing these diseased faucial tonsils, aside from the difficult swallowing and obstructed breathing they cause, we have removed a source of contamination to the inspired air and the swallowed food, owing to the buccal secretions often containing portions of the cheesy exudate thrown out by them, rich in germs and of a peculiarly fetid and nauseous odor, well calculated to easily and continuously produce a derangement of digestion. These subjects are also predisposed to diphtheria, which, when occurring, handicaps them and ourselves in treatment, in that their already very narrowed breathing space requires little of an inflammation or exudate to completely close it, while with a little more breathing space here we might have fought it to a successful finish.

These remarks applying more especially to the faucial tonsils, let us pass on to a more important one, though it is to be remembered they are not to be considered separately, but as a whole group, each one with individual characteristics, however, and producing more serious and complex conditions, owing mainly to their situation rather than difference in function. The pharyngeal, Luschka's, or third tonsil, or adenoid, as it is variously called, is probably the most important, in that by its enlargement more serious and damaging conditions result. The idea which many might hold at first thought that our nostrils are little more than the whale's "blow holes" must be laid most completely aside when we consider the never ending and complicated work our noses have to do in warming, moistening and filtering inspired air that it may be properly prepared and acceptable to larynx, trachea, bronchi and air cells; nor must we lose sight of the part it plays in phonation and ventilation of the sinuses, consequently of cranial development and the middle ear. The mouth can do neither one of these properly, so when it is forced to do it by closure of the naso-pharynx by adenoids, the chain of symptoms and reflexes resulting from it is truly alarming. Ingals states that in a series of 200 cases carefully tabulated by him, the children gained from 30 to 40 per cent. in weight and correspondingly in endurance and vigor within six months after operation.

Quoting further from this table to give you an idea of the seriousness and complications, he states that sight was affected in 1 per cent., smelling in 11 per cent., headaches, severe and constant in 27 per cent. hearing in 33 per cent., dyspnea produced in 40 per cent., cough in varying severity in 36 per cent., while excessive nasal secretion, obstruction and other marked catarrhal affections occurred in 65 per cent. Of these cases of deafness 66 per cent. were greatly ameliorated, 33 per cent. were entirely cured. Blake says 83 per cent. of adenoids have ear disease, either catarrhal or purulent. Woakes says not more than 5 per cent have escaped ear involvement. Bosworth says: "No symptom of the disease possesses greater importance than the ear complications." French claims deafness, more or less marked, occurs in half the cases. Shurley quotes Sendziak, of Warsaw, stating that 57½ to 73 per cent. of deaf mutes suffered from the presence of adenoids. A most severe arraignment of adenoids as destroying partially or wholly one of our most valued senses. Hardly a day of our lives passes, but that we may not see facial deformity, the protruding upper jaw and teeth, the stolid vacant expression and open mouth, with hanging lower jaw; in short, the so-called "frog" face, either in child or adult as a result of adenoids.

The child so suffering is often stupid and mentally backward or deficient, owing to the interfered with cranial circulation by these growths and the impaired hearing; so well recognized, in fact, is the condition, that Guye, of Amsterdam, has given it the name of aprosexia. Many cases of recurring spasmodic croup, chronic bronchitis and laryngitis are owing to the improperly prepared air these month breathers have to use. Noyes states that he has had to treat adenoids thoroughly and the naso-pharynx faithfully to cure many of his cases of phlyctenular keratitis and conjunctivitis. I have cured one case of enuresis by their removal, where circumcision, the removal of rectal parasites, and belladonna and strychnia had failed in the hands of others.

As for the symptoms and diagnosis, you are doubtless familiar with those ordinarily mentioned in literature pertaining to these disorders, and also of the instructions to insert one's finger up behind the soft palate to obtain, when present, the sensation of its coming in contact with a mass of earthworms. In this connection it may be stated, on the authority of Jonathan Wright, that the naso-pharynx of infants is normally smooth to the sense of touch of the inserted index finger. In very timid children, or where the parent may object to this use of

the finger, a cotton wound post-nasal applicator can be gently pushed up into the naso-pharynx; if, on its withdrawal, it is found blood stained we can safely say that the tonsil is abnormal in texture and can gain a fair idea of its size by the amount of resistance met with. Aside from these, there are several other pointers which will enable us to suspect its presence, and will not often mislead us. An infant letting go of its nipple, especially in the early part of its nursing, swallowing with a peculiar gasp or gurgle, should cause us to suspect it. Children continually complaining of sore throats, or demanding or using excessive quantities of water at meal times to wash down their food, together with difficult swallowing, would strongly indicate its presence. In milder cases, where the growth is small, they may often be observed to give a series of short expiratory whiffs in an effort to dislodge it. Enlarged glands at the angle of the jaw are frequent and constant conditions. Epistaxis, with no apparent cause, and a filateral purulent rhinitis are frequent accompaniments; restless sleep with snoring, most probably from involvement of the naso-pharyngeal gland, and "night terrors," more likely faucial in origin, are often complained of, and due, especially in the case of the faucial tonsils, to the insufficient aeration of the blood. The engorgement of the transverse nasal vein across the root of the nose, mentioned by Spicer, I have not often noticed. The child's inability to properly pronounce words containing the letters "m" and "n" you are naturally familiar with. Normally, atomized oily solutions, when thrown into one nostril should return freely through the other; if adenoids are present the exit of the solution is decidedly diminished in force and volume. With normal nostrils one should be able with little expiratory effort to blow out a lighted match through them; not so with the subject of adenoids, though this obstruction might be elsewhere than in the naso-pharynx proper. The movement given a small piece of frayed cotton held close to the nostril of the child in respiratory efforts, together with the match just mentioned, will often demonstrate to the parent that obstruction is present when they refuse to accept our version of the condition of the child's breathing. Mouth breathers are prone to excessive collections of tartar on the teeth and early caries of the upper front teeth.

Granulations on the posterior wall of the pharynx and hypertrophic rhinitis are almost certain signs of adenoids. Stammering is quite frequently associated with and the so-called "barking cough of puberty" of Sir Andrew Clarke often caused by adenoids. We are frequently asked if they will not outgrow them, and we can assuredly

answer "yes," but by the time this has occurred, which is usually at or about puberty, the deficient facial and chest development, the chronic rhinitis, sore throat and the damaged hearing are practically beyond benefit, and the person so fated is lucky if his infirmities do not increase, for they will certainly grow no less. Again, we are often asked as to their recurrence after removal. A few years ago I should have said no; that their non-recurrence was as sure "as death and taxes." During the last two years, however, I have had two recurrences in cases which I know at the time I removed as thoroughly as any others so that I do not speak so positively now.

The third member of this group, the lingual tonsil, at the base of the tongue, differs from the others in one marked respect—it has no tendency to atrophy at puberty, and conversely is seldom affected before the twenty-fifth year. It is composed of two lobes lying on either side of the base of the tongue, its tissues continuous with the faucial ones. Its hypertrophy is not so infrequent as might be cursorily thought, for Browne quotes 28 per cent. of the cases applying to the Central London Throat, Nose and Ear Hospital for catarrhal diseases as affected by it. Another peculiarity of chronic inflammation of this gland is the tendency of its blood vessels to become varicose, so that lingual varix is a well established term in the literature of throat diseases. There is no pain on opening the mouth when hypertrophied even sufficiently to interfere with the action of the epiglottis, and consisting, as it does, of two lobes, one may be involved alone and earache complained of, when nothing of an inflammatory nature can be found in the middle ear. Hypertrophies in this region are most often found in vocalists, or those using their voices much in dusty or the open air. The so-called clergyman's sore throat is undoubtedly kept up by it. Abdominal and hepatic plethora, as found in alcoholics and in cirrhotic conditions of the liver, conduce to its chronic inflammation, as it does of all mucous membranes of the respiratory tract. Two of the most severe and uncontrollable cases of epistaxis I ever met with in practice were in confirmed alcoholics with symptoms of cirrhosis. Elongated uvula is often associated with it and abscised for the relief of symptoms, with no benefit. It is often associated with dyspepsia, especially when of an acid nature, so-called, with frequent eructations, and it is really a question worthy of investigation whether "globus hystericus" is a fanciful and neurasthenic symptom or a real material one due to enlargement of this tissue, since the sensation can often be induced in these subjects by pressure upwards and backwards over the thyroid.

That infection of this tissue can easily lead to glossitis in varying grades of severity, is apparent when we recall the anatomy of the blood supply of the tongue, and several cases of Ludwig's angina have been traced to this organ as the etiological factor. Brown quotes Gillot as stating that he considers lingual tonsillar hypertrophy and varix as indications of a predisposition to apoplexy. As symptoms, blood spitting and blood oozes found on the pillow in the morning are frequently noted by these patients and are indications of its presence, especially if examination shows no lung involvement. The sensation of a foreign body having been swallowed and lodged at the base of the tongue is frequently complained of, patients refusing to believe after a most thorough and careful examination by laryngeal mirror, that no such body is present. The discomfort is often of a sticking nature, and fish bones and toothbrush bristles are often thought to have lodged there by them. Shortness of breath and the complete disappearance of all sensations of pain or discomfort during the taking of a meal are pointers as to its enlargement. It is rather more frequently found in the overworked and underfed woman than any other individual, and women, generally speaking, are more often affected than men. I have had recently a very intelligent lady patient of whom I have made a good friend by removing some of this tissue at the base of the tongue, which was keeping up a constant desire to clear the throat, with a hemming cough, and who had taken cough mixtures and throat lozenges time and again with slight, if any, relief. Some of us may recall the uneasiness of a part of the public mind, at least, at what was thought at the time to be the serious hemorrhages which occurred in the case of Sarah Bernhardt several years ago, presumed at that time to be pulmonary in origin, but later found to be from a lingual varix, vicarious in character, evidently, from their periodicity and associated with a history of beginning menopause. There seems in some instances to be a very intimate relationship between the two.

As I said in the beginning of this paper, gentlemen, I have not touched on the treatment of these conditions at all; my idea has been to call your attention to the seriousness of tonsillar hypertrophies, and also to point out a few symptoms outside of those generally recognized which shall help us to know when these serious conditions are present and at work, so that familiarizing ourselves with them in this manner and acting on that knowledge, we can undoubtedly banish much of pain, disfigurement, lack of development, mental and physical, as well as do much to preserve the valued sense of hearing. In so doing we

are all the better fulfilling our offices as true physicians in every sense of the word, and making this world of ours the better and happier for our having lived and worked intelligently in it.

ACUTE ANTERIOR POLIOMYELITIS.

BY PHILIP F. BARBOUR, A.M., M.D.

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Anterior poliomyelitis is the most frequent cause of paralysis occurring in children. The type is clinically so distinct and the location of the lesion so well known that the disease is frequently named infantile spinal paralysis. While easily diagnosed as a rule its etiology is uncertain and its treatment very unsatisfactory.

Various theories have been propounded to explain the origin of this disease. One may select a number of different pathological findings and believe that any one of them explains the disease, but the pathology as so far developed explains results rather than demonstrates causes. The most widely accepted theory is that anterior poliomyelitis results from an inflammation attacking the anterior horns of the gray matter of the spinal cord. Without attempting to recall to your mind these various theories, I would lay stress upon the most recent theory, which seems better to explain the phenomena of the disease than any of the previous hypotheses. All authorities seem to agree that the lesion lies primarily in the blood vessels of the cord, and that the involvement of the gray matter is secondary to the pathological condition of the blood vessels. They hold that the trouble in the blood vessel is inflammatory in nature, but because the disease is so rarely fatal, and when fatal so much time has elapsed since the acute stage of the disease, the character of the acute lesion can not be demonstrated, and its inflammatory nature is only inferred from the results. It has been suggested that the true lesion is a thrombosis of the arteria fissuræ anterioris, which passes inward through the anterior fissure, and when it reaches the gray matter breaks up into fine capillaries which are distributed to the anterior horns of gray matter. These arterial vessels are terminal, which explains the severity and the irrevocableness of the result. The inflammation involves principally the nerve cells in the anterior horn, and the symptoms result from the atrophy and destruction of these cells. The causes of this thrombosis are various. The contagious diseases, such as scarlet

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fever, measles, typhoid fever and influenza have very frequently been followed by anterior poliomyelitis, and therefore it would seem that a number of organisms stand in an etiological relationship to this trouble. It is believed, however, that it is not the direct action of the germs, but the toxins elaborated by them which produce the local condition in the arteries which results in thrombosis. Other causes which have been assigned are exposure, traumatism, teething and psychical phenomena, such as fright. But these are most probably only predisposing causes, for they do not explain the fact that the disease is frequently distinctly epidemic, and much more prevalent in the warm months. It is a disease of early childhood, for 80 per cent. of cases occur in the first three years of life.

The onset of the disease is usually acute, commencing with a temperature of 101 to 104° F., with headache and occasionally convulsions. There are vomiting and diarrhea and general hyperesthesia, with numbness and tingling. Usually there are pains in the back and traveling down the nerves of the extremities. There may be prodromata, such as weakness, malaise, etc., but again the child may awake after a sound sleep, paralyzed. Usually the paralytic symptoms come on in from three to six days, showing at first extensive involvement of the upper and lower extremities. The lower extremities are involved in the great majority of cases, the right more frequently than the left. The cranial nerves usually escape, and the sphincters almost never are affected.

Within a few days of the onset of the disease the paralysis begins to clear up and there is a continual improvement for several months, nature reaching its limit usually in about three months. It is thought that the zone of inflammatory reaction in the anterior horn of gray matter is more extensive at the onset, and after the inflammatory products are absorbed the surrounding cells regain their former activity, but the cells which were actually diseased are atrophied and undergo granular degeneration and finally disappear. Consequently, the onset may be characterized by loss of power in an entire limb, but when the inflammation clears up only a few cells or a group of cells may have been destroyed, so that nearly all the muscles of the extremity regain their tone, and the permanent paralysis is seen to involve only a few muscles and usually those which are co-ordinated in their functions. The primary lesion may have been so slight that no permanent damage has been done, and the paralysis eventually completely disappears. As the lesion is confined to the anterior horns

there are no sensory disturbances after the immediate attack, but the death of the giant cells will eventually result in great atrophy of the muscles with which they are connected.

The electrical reactions are quite diagnostic, and consist in a very rapid loss of faradic irritability, which soon disappears completely. Galvanic irritability remains increased for several months and then diminishes, disappearing entirely in from one to two years if the paralysis is permanent. Reaction of degeneration is always observed, and serves to differentiate from other similar conditions. When the paralysis is not complete and permanent, the faradic irritability will return in from six to twelve months, though the muscles may still remain weak. Sometimes a child is able to walk again, but when grown it is unable to walk because the weakened muscles are not able to carry the heavier load of the increased stature and size.

Atrophy involves the muscles and produces marked wasting early. Trophic changes eventually will be seen in the bones also, for frequently they fail to grow as rapidly as the symmetric bones, and shortening of the limb results. Then the loss of muscular power, coupled with the poor growth of bone and the overaction of the muscles which were not paralyzed result in subluxation of the joints and the so-called flail joints and extremities. Various deformities, club feet of every description will be met with.

The muscles which are usually involved are the anterior tibial group and the extensors in general. The deltoids of the upper extremity are most often paralyzed. The explanation of this is that the cells governing the forearm and hand lie laterally to the other cells of the anterior horn and receive their nutrition in part from the blood vessels which surround the cord. So that a thrombosis of the arteria fissural anterioris only partially affects their blood supply.

Trophic changes in the blood vessels of the extremities occasion the blue and cold hands and feet. The circulation becomes poor, but strangely enough, bed sores do not occur.

The diagnosis usually is easy, for the symptom complex is quite distinctive. However, the following diseases should be kept in mind in arriving at a diagnosis:

Cerebral palsy is differentiated by the absence of reaction of degeneration and of atrophy, except from disease, by the character of the palsy, which is spastic, and by the presence of knee jerk and characteristic contractions, and of cerebral symptoms present or of which a history is obtainable.

Multiple peripheral neuritis may be recognized by the gradual onset, pain in the course of the nerves, paresthesia, spontaneous recovery in about three months, and by the history usually of diphtheria, or arsenic or alcoholic poisoning. Occasionally, however, it is almost impossible to exclude multiple neuritis beginning suddenly with fever, early paralysis and the sensory symptoms not marked or having entirely disappeared when the case is first seen. Atrophy is common to both diseases and the electrical reactions are identical.

Acute transverse myelitis is recognized by the anesthesia, exaggerated knee jerk, and ankleclonus. Then the sphincters are usually involved and bed sores are common. There is no reaction of regeneration.

Erb's traumatic paralysis, when the deltoids are affected, may be recognized by the time of onset, at birth, anterior poliomyelitis being rare before six months, though Duchenne reports a case at twelve days.

The various pseudo paralyses occurring in rachitis, marasmus, syphilis, scurvy, hip joint and spinal caries need only to be mentioned.

The prognosis as to life is good. When the faradic irritability returns early the prognosis is favorable. If it is lost for six months the recovery is doubtful. After one year there will be no improvement. If the faradic contractibility has never been lost the prospect is most hopeful.

The treatment is very unsatisfactory. Unfortunately, the cases are never recognized during the onset, when cupping, or leeching, or blistering, etc., might prove of value in limiting the field of injury. It practically resolves itself into attempting to restore the muscular control and preventing deformities.

To prevent atrophy and the failure of growth and the attenuation of the limbs, massage and electricity should be used secundem artem. Hypodermics of strychnia nitrate in large and increasing doses directly into the muscles involved often arrest degeneration, and may be distinctly helpful. But it must be pushed to full physiological tolerance. Sea salt bathing of the affected limb, hot oil rubs and all means to improve circulation not only in the paralyzed muscles, but in the spinal cord should be essayed.

Treatment of the deformities belongs more properly in the province of the orthopedic surgeon, but a word or two is necessary here. All forms of braces and supports should be discouraged unless absolutely necessary, as they increase the weight which the paralyzed limb has to carry, and if they are not properly applied and should press upon some

of the bony prominences in the paralyzed limb the results will be disastrous, for the nutrition of the skin being poor callosities or ulcers will easily occur, and will only with great difficulty be healed.

Tendon transplantation or shortening of the tendon has in selected cases been very successful in relieving some of the paralytic features.

In cases of flail joints arthrodesis offers more relief than any other procedure.

Any operation which will enable the child to move about and to get the benefit of fresh air and sunshine should be undertaken, for there is little that we can offer to these unfortunate cripples.

ON THE HEALING OF TUBERCULOSIS (CLINICAL FEATURES).

H. M. King says that the first onset of tuberculous infection, in many cases, if not usually, antedates the appearance of clinical symptoms by months or even years. Careful search into the previous history of such patients reveals slight illnesses of various sorts, such, for example, as malaria or grip, which the results of autopsy work make it appear are probably evidences of systemic reaction to tuberculous infection. Two cases of this type are described, and the author states the following general propositions: (1) It is probable that the initial lesion following a tuberculous infection is often obscure in its clinical manifestations and frequently escapes identification. (2) There is nearly always a prompt and very often successful tendency on the part of the organism to a more or less complete repair followed by an interval of apparent health. (3) Following this interval, which may extend into a period of years, there is a strong tendency to relapse. (4) What is in reality a recrudescence of an arrested lesion is very frequently mistaken for an initial onset. (5) Whatever may be the facts in an individual case, the safest and most practical policy lies in regarding every apparent recovery from tuberculosis as merely an arrest of the disease, brought about by an acquired immunity which suitable conditions are very prone to destroy. The author has found that the generally accepted prognostic significance of a diazo-reaction in tuberculosis has application chiefly, if not solely, to the last stages of the disease, and it may be temporarily present even in early acute manifestations without necessarily indicating an unfavorable termination. A slight leukocytosis is present much earlier in the disease than is usually believed.—*Medical Record.*

RECENT PROGRESS OF MEDICAL SCIENCE.

OPHTHALMOLOGY, OTOLOGY AND LARYNCOLOGY.

UNDER THE CHARGE OF

ADOLPH O. PFINGST, M.D.,

PROFESSOR OF DISEASES OF THE EYE, EAR, NOSE, AND THROAT, KENTUCKY UNIVERSITY, MEDICAL DEPARTMENT, LOUISVILLE, KY.

Inspection of the Antrum of Highmore.—As there is always doubt in dealing with diseases of the antrum, whether pus is forming in the antrum or merely collecting there, whether the suppuration is limited to a small area or involves the whole lining of the cavity, and whether the changes in the cavity are slight or extensive enough to demand a radical operation, A. Brown Kelly (*The Lancet*, September 17, 1904) suggests an easy way of gaining access to the antrum and inspecting its interior. His method of opening the antrum is as follows: The gingivo-labial fold beneath the canine fossa is painted with 20 per cent. solution of cocaine. From four to six cubic millimetres of 10 per cent. solution of cocaine are injected at two or three points in the anesthetised area into the soft tissues over the canine fossa. After three or four minutes have elapsed the zygomatic-alveolar ridge is noted, and commencing just in front of it an incision is carried forward along the gingivo-labial fold for about from one and a half to two centimetres. The facial wall of the superior maxilla i now exposed by pushing aside the investing soft tissues with a raspatory. A sharp trocar is applied to the bony surface at a point about five millimetres in front of the zygomatic-alveolar ridge and about the same distance above the incision in the mucous membrane. Having bored a passage large enough to admit the end of the blunt-pointed trocar the latter is used to make the full-sized opening. By completing the operation with a blunt-pointed instrument, the danger of injuring the opposite wall is averted. The trocars should be directed backwards, upwards and slightly inwards. The operation is simple, often painless, although occasionally somewhat so when boring through the bone, can be quickly accomplished, and has in his experience but one drawback—namely, the necessity for the submucous injection so cocaine. Eucaine in 20 per cent. solution was tried, but sensation was

not satisfactorily abolished. A large-sized aural speculum with beveled edge is introduced into the opening through which a good view of the antrum can be obtained. The posterior part of the cavity directly meets the view when the speculum is introduced, but by inclining the instrument in various directions the greater part of the cavity may be inspected. If the opening be made further outward over the zygomatic-alveolar ridge a better view of the inner wall could be obtained, but for general purposes the other route is the best.

Detailed examination of the cavity is best postponed for twenty-four hours, the cavity in the meanwhile being loosely packed with gauze.

The author has treated forty cases in the manner described, in which he encountered various affections. In several of these cases the only abnormality found upon inspection of the antral walls was slight thickening. In such cases the cavity was packed with gauze. If the nasal discharge continued evidence was afforded that the antrum was simply serving as a reservoir for pus draining into it from the frontal or ethmoidal cells. In those cases in which the lining membrane was found normal the wound was immediately allowed to close.

Most of the patients whose antra were inspected suffered from chronic antral suppuration, and in most of these cases the appearance presented by the diseased lining membrane varied but little, and consisted in a general thickening. In these cases attempts were made to modify the diseased mucous membrane, or by destroying it to encourage the growth of a new lining membrane.

Various medicaments were tried, of which chromic acid fused on the end of a probe proved most useful. It was also easy of application. It was found best to cauterize only half the surface at a time, and to repeat the cauterization two or three times at intervals of several days. Kelly was able by this treatment to get the lining membrane into a healthier state, and diminish the suppuration, but not to check it completely.

When there was much edema of the mucous membrane the cavity was loosely packed with gauze for several days, which caused the edema to disappear and the swelling alone to remain. This was treated as previously indicated. Polypoi were found by Kelly in one case and polypoid degeneration in two. The pedunculated polypoi were snared and the sessile ones reduced by cauterization with chromic acid. The antral affection was cured in one of these cases and improved in the other.

In one case cysts were found in the antrum. These were incised and treated with chromic acid. This case was improved. The author concludes his report as follows :

"Inspection of the antrum has revealed to me some highly interesting conditions, but as regards treatment I have no sensational reports to chronicle. The ease and safety with which the method can be carried out justify its adoption as a diagnostic procedure. On the other hand, the results which I have obtained by the direct treatment of antral disease as described in this paper warrant only its reserved recommendation."

Osmic Acid Injection for Relief of Trifacial Neuralgia.—Neuriter was the first to use osmic acid for the relief of trifacial neuralgia, conceiving the idea from the fact that osmic acid had a special affinity for the medulla of nerves as a stain. John B. Murphy (*Journal of the American Medical Association*, October 1, 1904) treated three cases of neuralgia by daily injections of four to six drops of a 1 per cent. solution of osmic acid over the nerve at the site of pain. Two of the cases were affections of the fifth nerve, and both experienced complete relief for a short time, but had recurrence of the trouble. In the third case, involving the sciatic nerve, the relief was permanent.

Very slight reaction followed the injection of the acid, and no necrosis of tissue and only slight swelling and edema followed. There was no paralysis. Jacobson has treated eighteen cases of neuralgia, with subcutaneous injections of 1 per cent. osmic acid. Of these eight were cured, two improved, and eight not cured. J. Mercer also reports good results from deep injections between the tuber ischii and the trochantor major in sciatica. B. M. Schapiro treated eight cases of trigeminal neuralgia, of which five were cured, two improved and one unimproved. W. H. Bennett treated twelve cases, all of them obstinate and some of long standing. He laid the nerves bare by a short incision and injected 10 to 15 m. of the solution (1 per cent) into the nerve trunk, changing the position of the needle three times. Symptoms were alleviated in a few hours, and disappeared within a few days. There was slight recurrence in but two cases.

Intercranial Neurectomy for Trigeminal Neuralgia.—Sherman (*Journal of American Medical Association*, October 1, 1904) reports five cases of trigeminal neuralgia, in all of which there had been pain for some time, and which had gradually become so severe as to be unbearable. In all of the cases the third branch of the fifth nerve was involved, in two the second branch as well, and in one all three branches. With the exception of two cases the results were conventional. In two of the cases there were exceptional, unconventional

accompaniments. In one the exceptional element was a complete and permanent paralysis of the facial nerves following the operation. The outer half of the ganglion, with the second and third branches to their foramina of exit, were removed at the operation, and although the wound healed aseptically and the pain relieved, paralysis of the facial nerve followed. The integrity of the nerve before the operation and the lack of any pathologic lesion in the ear or temporal bone make it most probable that some injury inside the skull caused the condition. In the other exceptional case pain began in the supra-orbital branch, and was associated with an attack of herpes facialis. Preparations were made to divide the sensory root of the gangiion by making an incision to circumscribe the temporal muscle. The muscle was then separated as a whole from the pericranium down to the point where the bone was to be cut. This also avoided unnecessary stripping of the pericranium from the skull in a putative syphilitic. At the proper level, about 1.5 cm. about the zygoma, the pericranium was cut and the skull bared. The zygoma was left untouched. A small trephine opening enlarged by rongeurs gave ample room, the exposure of the ganglion was uneventful and the fasciculi of the root were hooked up and cut, the cutting causing a reflex movement by the patient. It was not possible to discriminate between sensory and motor filaments, but the fact of the section of the entire root was satisfactory, and the ganglion was tipped forward out of its bed to make this proof clear. This patient was free from pain for two days when the pain gradually returned in its old area and intensity. For two months anesthesia on the affected side continued, while temporal and pterygoid paralysis also persisted. In the third month sensation returned, although not quite to normal intensity. Muscular paralysis continued. This case is of interest because it shows that a nerve root may reunite and resume its function.

Headache in Relation to Diseases of the Nose and Naso-Larynx.—Wilkinson (*New York Medical Journal*, October, 1904) has made a classification of the morbid conditions of the nose and naso-pharynx which cause headaches. Considering them in the order of their importance he takes up, first, the morbid conditions of the mucous membrane of the nose, under which heading he includes acute and chronic rhinitis. In acute rhinitis, which may be simple, specific or neurotic, headache is frequently the first and pronounced symptom. The accompanying symptoms of fullness in the frontal region and more or less obstruction of the nasal canal, followed by dryness, and

finally the acrid discharge, furnish a familiar picture. In the specific variety the symptoms are more severe, and there is more constitutional disturbance. The cause of the headache is either obstruction of the nasal canal from inflammatory changes or constitutional conditions due to infection from bacteria present. The neurotic type of rhinitis under which heading the author has placed hay fever, asthma and hyperesthetic rhinitis are especially annoying, as so little relief from the stuffiness and head symptoms can be given. Headache is not as common a symptom in chronic rhinitis as in the acute variety. Under the head of chronic rhinitis we have hypertrophic rhinitis and atrophic rhinitis. Next to simple acute rhinitis hypertrophic rhinitis is the most frequent cause of headache. Its symptoms are constant and well understood. There is nasal stenosis, usually worse at night and upon exposure to cold, more or less mucous discharge, and a dull, heavy frontal headache. Atrophic rhinitis not infrequently causes headache; when it continues after thorough cleansing of the nasal passages it is usually due to disease of one of the sinuses.

Morbid conditions of the nasal septum, including deflections, exostoses, synechia and caries are not infrequent causes of headache.

Disease of the accessory nasal sinuses is another well recognized cause of headache. Headache is a constant symptom of inflammation of the frontal sinus, and a common symptom in affections of the ethmoidal, sphenoidal and maxillary sinuses. The acute stage of all of these sinus inflammations is much the same. They are as a severe cold, with an unusual amount of pain in the head, which localizes itself over the sinus involved. There are less head symptoms in the maxillary inflammations than in the others.

Among the benign growths of the nose and naso-pharynx which may cause headache are mentioned adenoids, polypi, syphiloma, enchondroma, papilloma, osteoma and rhinoscleroma. When these growths cause headache, and it is not frequent, they do so by pressure or stenosis.

On Vincent's Angina.—Bruce (*The Lancet*, July 16, 1904) writes an interesting paper. Vincent's angina is described as a form of pseudo-diphtheria, which is associated with, and is probably due, to certain characteristic micro-organisms. The disease was first described by Vincent in 1898. It is characterized by a necrosis of the mucous membrane, which, spreading deeply, may involve and destroy the whole thickness of the tonsil or the whole of the uvula, but which never gives rise to the formation of a thick false membrane as occurs

in diphtheria. The onset of the disease is often insidious, only a few of the patients complaining of sore throat. In most cases the throat affection is discovered accidentally, or attention is called to it by the accompanying glandular enlargement. In adults headache, malaise and sore throat may usher in the disease. Two types of the disease are recognized—a mild or diphtheria type, in which the process does not penetrate to any depth and does not extend over much of the surface. In such cases it is invariably unilateral, which distinguishes it from diphtheria. The glands are enlarged only on the affected side. There are constitutional symptoms, such as general malaise, anorexia, etc. Temperature rarely exceeds 101° F. After twenty-eight to forty-eight hours the necrosed patch slowly separates, leaving a shallow excavation, which quickly heals over. In eight to ten days the tonsil has usually returned to normal.

In the ulcero-membranous type, the more pronounced cases, the disease in the beginning resembles the milder type, but the process soon extends over the surface and involves the tissue more deeply. The whole of one tonsil, the adjoining pillars of the fauces may be attacked. It rarely involves the other side of the pharynx. It is not until three or four days after the onset that destruction of tissue is noticeable, and the case loses its resemblance to diphtheria. The whole surface of the involved area may separate, leaving a deep excavation. This takes place in about fourteen days. During the process of separation of the necrosed tissue granulations appear on the surface, which bleed readily when touched. In the majority of cases complete recovery ensues, the only after effect being an occasional drawing down of the palate to one side as a result of the cicatricial contraction. Relapses are apt to occur. Fatal cases are rare.

Several species of micro-organisms have been isolated from the throat in Vincent's angina, the pyogenic cocci being most frequently present. A spirillum is present in most cases. In concluding his treatise the author reports ten typical cases of Vincent's angina.

Vincent's Angina.—Rosenberg (*American Medicine*, July 23, 1904) contributes the following :

" In certain cases of an ulcerative type Vincent observed spirilla and fusiform bacilli associated. In every one of thirty cases of angina and stomatitis Berheim found these organisms, and later Vincent reported fourteen other cases. In this communication the latter describes the condition as a diphtheroid angina, characterized by a grayish or whitish pseudo-membrane, and accompanied by fever, at

times with a pronounced adenitis. This condition may be very easily confounded with true diphtheria. It usually attacks one tonsil or the neighboring pillars. At the height of the affection the tonsil is covered by a grayish or whitish plaque, is soft in consistency, and easily detached by scraping. The bacillus which causes the affection is ten to twelve microns in length, thicker in its central portion and thinned at both ends. It does not stain by Gram's method, and is often, though not constantly, associated with a fine spirillum."

It is claimed by Hess that cases of Vincent's angina should be easily recognizable, as characteristic cases contain a symbiosis of a bacillus and a spirillum in the necrosed tissue. The diphtheria bacillus is usually absent. Apert and others have observed in this trouble a fusiform bacillus present in large numbers and usually associated with a spirillum.

There seems to be no doubt that Vincent's angina is a distinct, clinical and pathologic entity, and due to infection by the symbiotic fusiform bacillus and spirillum of Vincent. That it is not more often described and diagnosed seems to be due to the fact that only inoculations upon culture media and no spreads from the affected area or areas are made. On account of the organisms not being obtainable in pure culture, and that other bacterial flora of the mouth may rapidly overgrow the bacteria in question, spreads should always be made, as inoculations, upon culture media.

The author reports briefly three cases of Vincent's angina, in all of which the associated organisms were clearly predominant.

The Value of Early Incision of the Membrana Tympani in the Treatment of Acute Suppuration of the Middle Ear.—In a brief paper Packard (*Medical News*, September 17, 1904) cites his experience with ten cases of acute suppurative otitis media complicating grip. In seven cases he observed that after spontaneous rupture of the drum the patients suffered much pain in the ear for many days after the rupture and discharge continued, in two instances as long as four weeks, and in the other five for a period varying between ten days and three weeks. In three cases in which the drum was incised early pain was relieved almost at once and discharge soon ceased, in one after three days and in the other two at the end of five days. The cases were all treated alike after the drum had been opened. The ear was cleansed once a day with peroxide of hydrogen applied on cotton probe, which was followed by the injection of bichloride of mercury,

1-4000. After drying the ear canal a strip of iodoform gauze was introduced throughout the length of the canal, and left in position until the next day. The drain affords relief by drawing off the pus, and the patients seem to experience a sense of comfort, probably because it keeps the walls of the canal apart.

These cases emphasize the value of early incision of the membrana tympani in the treatment of acute suppurative otitis media, and demonstrate the advantages of the so-called dry treatment practiced by efficient gauze drainage. The author does not approve of irrigation believing that the ear can be thoroughly dried after irrigation only by a skilled aurist, and that the pool of fluid ordinarily left in the canal is very harmful, in that it affords moisture for the furtherance of bacterial growth.

Sympathetic Opthalmia.—Ramsay (*Annals of Ophthalmology*, November 1, 1904) lays down the following rules as a guide to the practitioner in determining whether an operation should be resorted to in cases of traumatism of the eye: 1. Enucleate at once when the injury is so severe that the exciting eye is destroyed hopelessly from the beginning. 2. Enucleate at once on the slightest sign of sympathetic irritation should the vision of the exciting eye only equal a perception of light and darkness. 3. Enucleate at once if a foreign body is present in, and can not be removed from, the exciting eye. 4. Enucleate at once when an injured eye is blind and suffering from recurrent attacks of acute inflammation or when it is tender and irritable as a result of the onset of degenerative changes, as, for example, ossification of the choroid. 5. Do not enucleate when there is still sight in the injured eye and when there is no sign of systematic disturbance in its fellow. 6. Do not enucleate when sympathetic inflammation is in progress and there is still sight in the injured eye, for in these circumstances the removal of the "exciter" will have no beneficial influence, and the probability is that in the end all the sight the patient will possess will be in the primarily injured eye. Though exceptions may now and then occur these rules are sound and in accordance with the results of experience.

THE AMERICAN PRACTITIONER AND NEWS

"NEC TENUI PENNÂ."

F. W. SAMUEL, A.M., M.D., A. D. WILLMOTH, M.D., } EDITORS, S. B. HAYS, M.D., MANAGING EDITOR.

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EDITORIAL.

With this issue a new series begins, issuing monthly instead of semi-mouthly. THE AMERICAN PRACTITIONER AND NEWS, is the result of the consolidation of the two oldest journals south of the Ohio River, having started with the *Louisville Medical News*, in 1867, with Dr. Richard V. Cowling as editor. In 1870 Dr. Yandell started the *American Practitioner* with himself as owner and editor. John P. Morton & Company, owner of the *Louisville Medical News*, bought, in 1886, the Yandell periodical, and consolidated the two as THE AMERICAN PRACTITIONER AND NEWS, with Doctors David Yandell and H. H. Cottell as editors. At Dr. Yandell's death, Martin F. Coomes, M.D., assumed his duties with Dr. Cottell as editors. On January 1, 1904, Drs. Fouche Warren Samuel and A. David Willmoth assumed charge of tha JOURNAL.

THE AMERICAN PRACTITIONER AND NEWS has many features to interest the busy practitioner. It is the official organ of the Louisville Clinical Society, Louisville Society of Medicine and Surgery, Louisville Society of Physicians and Surgeons, Louisville Neurological Society, Academy of Medicine of Louisville, Muldraugh Hill Medical Society, Eagle Valley Medical Society. Essays read before the first five societies are published monthly in this journal, with stenographic report of their

discussions and also reports of cases. The majority of the papers read at the last two societies will be published. A department called "RECENT PROGRESS OF MEDICAL SCIENCE" will be arranged so that a special branch of medicine will be considered each month by a specialist in that branch; in this issue Dr. Adolph O. Pfingst gives the progress of the last six months in the diseases of the eye, ear, nose and throat. The other departments will be in charge of Drs. F. W. Samuel and W. O. Roberts, on General Surgery; Drs. J. E. Moren, B. F. Zimmerman and Durning S. Wilson, on General Medicine and Nervous Diseases; Dr. Geo. B. Jenkins, on Pediatrics and Therapeutics; Drs. E. S. Allen, on Pathology and S. B. Hayes, on Bacteriology and Hygiene; Drs. Chas. W. Hibbitt and S. B. Hays, on Gynecology and Obstetrics. The above six departments will run from January until June inclusive and then repeat themselves from July to December. Editorials, news and notes and things of timely interest will always be given its needful mention. The present management intends to spare neither time, trouble nor expense to improve the JOURNAL, and they think that in its new form for 1905 and its subscription price reduced to $1.00 (one dollar) per annum, THE AMERICAN PRACTITIONER AND NEWS will be accorded the support of the profession in the future that it has enjoyed in the past. We wish herein to extend our greeting to our friends for a "happy and prosperous new year."

At the regular meeting of the Louisville Clinical Society, on December 6th, Dr. W. Ed. Grant read the essay of the evening under the caption of "Some Thoughts on Medical Life Insurance," which provoked the fullest discussion, notable in the direction of personal experience as life insurance examiners, in many instances to that of uniqueness. The subject of medical life insurance is one to which Dr. Grant has given a number of years of study and practical application, and is well qualified to speak on the subject. In his presentation of the subject he divided it into the relation the examiner has to the company and the relation of the examiner to the applicant, maintaining that the Examiner, under all circumstances, must be extremely guarded of the company's interest. In this we entirely agree. In his handling of the applicant as an insurance risk he was as broad as it was possible to be, at the same time conservative in his honest intention to the applicant. Among the many points that were brought out in the discussion, and which was criticised, was that the medical blanks contained many questions that were seemingly useless

to the casual observer. This may seem so, but in summing up the risk that the company must assume a perfect record and past illness must be faithfully studied and weighed by the examiner. This, taken together with his physical examination, must be considered in a final decision of the case. Another point which seemed of great importance to those who were medical examiners was that the agent who obtained insurance risks should not be in possession of the blank after it has been passed upon by the medical examiner. This we do not think is necessary if the examiner desires to be just in all cases, and if courageous and honest he need not fear the results. Both in the paper and the discussion there was a consensus of opinion that the medical examiner's fees should be in accordance with the amount and character of the examination, and under no circumstances should be less than five dollars. In this we believe a correct solution is given that with the cheapening of the medical fee cheap examination would result, and thereby a loss to the company by virtue of the fact that competent men will not be obtained to do this work. In regard to the point brought out in Dr. Grant's paper that many companies were about to, or at least considered, the propriety of dispensing with the medical man, we believe that it can not be done, that a proper estimate of a risk can not be made until the medical examiner has given his decision in the case.

NEWS AND NOTES.

"In Relation to Appointment in the Medical Corps of the United States Army, the Requisite Qualifications, Examination of Applicants" etc., is the caption heading a circular of information received by us from the War Department Office of the Surgeon General. Any graduate in medicine wishing to know more fully about the appointments to be made may address R. M. O'Reilly, Surgeon General United States Army. Besides this circular of information a list of the cities will be sent showing the time and place of examination for certain districts.

The December number of the *Annals of Surgery* has been received at this office, and we find it a remarkable number containing 300 pages of original articles fully illustrated, several of the articles being embellished with colored illustrations. We certainly congratulate the Lippincott Company on this number.

The *American Journal of Nursing* has been sent to us for review, and we find it a very valuable medium for the dissemination of matter of interest to the trained nurse. It takes up questions of nursing schools, nurses, nursing and much other interesting topic of that profession, and the January issue is especially rich in original matter, taking up some school questions, cooking, infant feeding, etc.

The St. Louis *Courier of Medicine* is running a series of articles beginning with the December issue on "The Care of Premature Infants," by Dr. Zahorsky. These articles will be found of interest to many, as they contain much valuable topic relating to incubators.

The February issue of THE AMERICAN PRACTITIONER AND NEWS will be quite a large one, and contain nearly a hundred pages of text. It will be out between the 1st and 5th of the month, and will contain Dr. John B. Richardson's, Sr., article written by himself about his latest illness, two grave conditions which endangered his life. The paper was read before the Louisville Clinical Society, and the February issue contains the full discussion, besides the paper.

The Critic and Guide of May and June have certainly gone after one James Alkaloidal Company, and exposed them unmercifully. They are charged with selling an improved morphine tablet promiscuously, and a testimonial, probably several, is printed as signed by a physician who can not be found in any medical directory of any State.

Messrs. Lea Bros. & Co., Philadelphia, upon application will send a general catalogue of medical books. This includes all recent publications of medical books in the English language, and will be of much valuable aid to the practitioner in knowing what and by whom a book is written and published.

The publishers of the *Delineator* have been so kind as to send us their Christmas and New Year numbers, which we appreciate. We find many excellent articles therein.

Battle & Co., St. Louis, Mo., have just issued a fourth of a series of twelve illustrations of the intestinal parasites, and it will be sent free to any physician upon application.

SOCIETY NOTES.

Southwest Virginia Medical Society.

The sixth semi-annual meeting of the Southwest Virginia Medical Society will be held January 17th and 18th, at Bristol, Virginia and Tennessee. President R. W. Sanders is expected to be in the chair. Dr. J. W. Kelly, First Vice President; D. W. B. St. John, Second Vice President, and Dr. E. F. Brady, Secretary-Treasurer, compose the other officers. Nineteen interesting papers, including the address of welcome by Rev. W. S. Neighbors and the President's address have been prepared, some of which will be published in THE AMERICAN PRACTITIONER AND NEWS in an early issue.

This is quite a wide awake and thoroughly organized medical society, and consists of 105 members. The meetings are well attended and visitors are cordially invited to meet with the society. There are several invited guests to this meeting. A clinic will also be a feature at the Evans Shelby Hospital of Bristol.

International Society of Surgery.

The first congress of the International Society of Surgery will meet at Bruxelles, September, 1905, Professor D. Th. Kocher, of Berne, presiding. The congress, which comprises the members of the society, will confine its discussions to the questions of the programme, which are as follows: (1) "The Value of the Examination of the Blood in Surgery;" (2) "Treatment of Hypertrophy of the Prostate;" (3) "Surgical Intervention in Affections of the Stomach Other Than Cancerous;" (4) "Treatment of Tuberculosis of the Joints;" (5) "Treatment of Peritonitis," and (6) "Diagnosis of Surgical Diseases of the Kidney."

Address all communications pertaining to the congress, until further notice, to M. le Dr. Ch. Willems, 6, Place St. Michel, a Gaud, Belgium.

The Wise County (Virginia) Medical Society met December 21, 1904, at Norton, Va. Interesting papers were read and discussed, after which came the annual election of officers. Dr. M. L. Stallard last year was President, and Dr. T. M. Cherry was Secretary.

BOOK REVIEWS.

The Theory and Practice of Infant Feeding, with Notes on Development, by Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post Graduate Medical School and Hospital; Attending Physician to the Post Graduate, Willard Parker and Riverside Hospitals; Consulting Physician to the Randall's Island Hospital. Second Edition. Revised. With Numerous Illustrations. New York: Wm. Wood & Co., 1904.

"All competent observers are agreed that the best nourishment for a body naturally comes from its own mother." So says the author of this excellent book in his introduction. And the fact that in the absence of natural infant food we have to substitute the milk of an animal with a polygastric digestive system for a milk intended for one with a monogastric digestive system, there is ample room for elaboration as to how to modify and adapt to the animal to be fed that which is unnatural to it. Furthermore, we must have fresh, clean, pure cow's milk. Dr. Chapin writes a book wherein he treats of feeding along the most intricate line, failing never to consider even the least relevant points. He studies the cell and its development, stating "the milk of each animal is adapted to its own digestive system, rate of growth and state of development."

We recommend this work because it is a deep study of a subject which the reviewer has found to be a deeper one. Fresh, clean and pure cow's milk can be procured, and a method is outlined to that end. As it would take page after page to enumerate all the good points mentioned, we must simply say that scarcely a point relevant to infant feeding is to be found missing in this book, which makes it invaluable as a reference and for those who study their babies and their food formulæ it may be said this work will materially aid you.

Diseases of the Stomach and Intestines, with an Account of Their Relations to Other Diseases, and the Most Recent Methods Applicable to the Diagnosis and Treatment of Them, by Boardman Reed, M.D., Philadelphia, in a Series of Eighty-two Lectures, Complete in One Volume. 1024 Pages. Illustrated. Half morocco, $6.00; cloth, $5.00. New York: E. B. Treat & Co., 241 West Twenty-third Street, 1904.

We find this 1000-page book a plain, well stated work on diseases of the stomach and intestines; on both subjects, 'tis known, there exist but few one-volume works. It has been Dr. Reed's endeavor to write a practically complete clinical guide to the diagnosis and treat-

ment of the diseases of the digestive tract. The work is strictly modern, and the chemical and microscopical technique excellent. Work with electricity, radium, vibratory machines and on massage is not omitted, and old, well tried, but found useless, remedies and methods are condemned or omitted. An ample list of illustrations elucidate the text, including many new pictures of apparati and diagrams. Surgical procedures are described under cancer and ulcer. An amplelist of contents almost renders an index unnecessary, but the latter is also extensive. We heartily recommend this volume to practitioners, knowing that more than once it will prove a "friend in need."

A Handbook of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues, by Frances Delafield, M.D., LL.D. and T. Mitchell Prudden, M.D., LL.D. Seventh Edition, with Thirteen full-page Plates and 545 Illustrations in the Text in Blanks and Colors. Price, $5.00 net. New York: Wm. Wood & Co., 1904.

We find this handbook of general pathology replete in all branches belonging to this subject. Bacteriology is beautifully treated. Immunity is fully discussed, including the Ehrlich's lateral chain theory. The plates on bacteriology and the blood are excellent, and these illustrations are profuse and render the text more clear. Dr. Delafield no longer shares in the preparation of this volume, hence Dr. Prudden may be called the author. We know of no better text book than this one on this subject, nor know we of another that so contains good blood work, bacteriology, pathology and post-mortem technique. It is both well worded and printed, and should be in every doctor's hands.

The Practical Medicine Series. Edited by G. P. Head, M.D. Vol. VIII. Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics and Forensic Medicine. Edited by Geo. F. Butler, Ph.G., M.D.; Henry B. Favill, A.B., M.D.; Norman Briege A.M., M.D.; Daniel R. Brower, M.D.; Harold N. Moyer, M.D. Chicago: The Year Book Publishers. July, 1904.

It is remarkable how the excessive literature of the world's medical progress can be boiled down into a few convenient volumes, and each volume replete as regards the subject it harbors. The above book in therapeutics embraces the new things—as serum therapy, X-rays and radium. We are glad to see that those drugs that have survived are here listed, and alphabetically, too. We all want to know what adrenalin, acetozone, acgurin, dionin, etc., are doing therapeutically,

and this book tells. The chapter on climatology is interesting, and that on forensic medicine instructive, as it is abreast with the times as regards recent court decisions and reports of prominent cases.

The Practical Medicine Series. Edited by Gustav P. Head, M.D. Vol. IX. Physiology, Pathology, Bacteriology, Anatomy and Dictionary. Edited by W. A. Evans, M.S., M.D.; Adolph Gehrman, M. D., and William Healy, A.B., M.D. Chicago: The Year Book Publishers, August, 1904.

This work includes, as named immediately above, being especially full and rich in pathology and bacteriology. The blood work and serum reaction pages are especially up, and a dictionary of new words is not amiss. The laboratory technic work is practical, and all prominent members given comment. The arrangement is convenient for reference.

The Practical Medicine Series. Edited by G. P. Head, M.D. Vol. X. Skin and Venereal Diseases, Nervous and Mental Diseass. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. Chicago: The Year Book Publishers. September, 1904.

This book, like the rest, is teeming with good material. In short, the current, prevalent and now discussed conditions have consideration in the nervous and mental disease section, with the late theories discussed. The genito-urinary, venereal and skin chapters, as usual, consider mainly gonorrhea and syphilis, but happily elaborates on the constitutional relations of skin diseases.

It is well to note here that this series of ten (10) volumes may be had for $5.50, but any single one is $1.00. It is more than worth it.

S. B. H.

A General Catalogue of Medical Books, comprising a List of Both Authors and Texts of All Medical Publications. Price, 25 cents. Philadelphia: P. Blakiston's Sons & Co., 1904.

We find such a book as this a very convenient one for a doctor to have, containing not complete information about publishers, etc., but data from which intelligent inquiry can be made concerning a subject. It is interleaved for notes and bound in leather.

Books Received.

Pneumonia and Pneumococcus Infection, by Robert M. Preble, A.B., M.D.,

Professor of Medicine in Northwestern University. Illustrated. Chicago: Cloyd J. Head & Co., 1905.

Fourth Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children; for the year ending September 30, 1904, Hospital located at Tarrytown, N. Y. Albany, N. Y., J. B. Lyon Co., Printers, 1904.

How to Study Literature; A Guide to the Intensive Study of Literary Masterpieces, by Benjamin A. Heydrick, A.B. (Harvard), Professor of English Literature, State Normal School, Millersville, Pa. Third Edition. Revised and Enlarged. New York: Hinds, Noble & Eldridge 1904.

One Hundred Years of Publishing (1804–1904). A Brief Historical Account of the House of Wm. Wood & Co. Illustrated. New York: Wm. Wood & Co., 1904.

Annual Report of the Surgeon General of the Public Health and Marine Hospital Service of the United States for the Fiscal Year 1904. Washington, D. C.: Government Printing Office, 1904.

Proceedings and Addresses of the Seventh General Conference of the Health Officials in Wichigan, Ann Arbor, Mich., January 7 and 8, 1904, under the Auspices of the State Board of Health. Published by Authority. Lansing, Mich.: Wynkoop-Hallenbeck-Crawford Co., State Printers. 1904.

Report of a Case of Blastomycosis, by Drs. Henry H. Koehler and Gaylord C. Hall. A Reprint. New York: The Grafton Press, 70 Fifth Avenue, 1904.

HEALTH REPORT.

LOUISVILLE HEALTH REPORT.

The following is a report of the cases and deaths as reported to the Health Department during the two weeks ended, December 29, 1904.

	Cases	Deaths
Scarlet fever	12	0
Diphtheria	14	2
Whooping cough	0	0
Typhoid	2	1
Tuberculosis	0	28
Small-pox	1	0

M. K. ALLEN, M.D., *Health Officer.*

SOCIETY PROCEEDINGS.

PROCEEDINGS OF THE LOUISVILLE MEDICAL AND SURGICAL SOCIETY, NOVEMBER 21, 1904.

Dr. Wathen: I have here two Roengograms illustrating non-union of fractures. This first case was a case sent to me by Dr. Montgomery. This man had a fracture of the olecranon process. He was about forty years of age. He fractured this bone about ten years ago, and thought that he had gotten a very good result. He has recently sustained a fracture in the same place. Upon examination with the X-ray it shows that this fracture had never united. It was simply a case of non-union, and this fibrous union was so strong as to allow him to use the arm until broken a second time. I exhibit the picture, and it speaks for itself.

The second case probably some of you may have seen. It was a sailor about fifty years of age operated on at Washington and a number of places by army surgeons for non-union of the humerus. He was operated on about seven times. He was visiting in the city and came to my office, and I made this picture of the condition. You may have seen the case, and will be interested in it. I only exhibit the pictures as samples of non-union of fracture.

This picture of the elbow was taken by a new method introduced by Albers-Schoenberg, of Hamburg. It is the ideal method in all kinds of work.

Dr. Hendon: Conditions of this kind are always of a great deal of interest to men interested in surgery on account of the fact that the subject of non-union of fractures assumes a degree of more importance now than formerly, and a great deal more hope is held out in these cases. It gives a wide field for all kinds of surgical ingenuity, and different devices and means have been adopted for securing the fragments of bone in a position. Most every surgeon of wide experience has his own methods that he employs in these cases. The subject is considered of such importance by some authors that they recommend in fractures of the humerus that the fragments be united by the direct method at once. Fractures of the humerus are exceedingly prone to result in non-union more than fracture of any other bones except the patella and the olecranon process.

Now, the question of the surgery in this condition comes up, and

experience has proved that the suture is not the ideal method because it has been brought out that the suture itself acts as a foreign body, and will prevent union that would otherwise occur. Still, as we have nothing superior to offer, I believe that at the present time it is the best we have. When one device fails another should be tried. Probably this man has been subjected to various devices. One of the most ingenious I have seen lately is where plates and set screws are used for holding the bones in position.

The obstacles that prevent union form a chapter in this subject. It has been shown lately that the most common of these obstacles is the interposition of some of the soft parts between the fragments of bone. The constitutional dyscrasias do not play as large a part as formerly thought.

It is held by some that bony union of the olecranon is absolutely impossible without direct suture, just as some men hold that bony union of the patella is impossible.

These plates are beautiful demonstrations of the X-ray possibilities, and impress very forcibly the use to which the X-ray apparatus can be put in conditions of this kind. The X-ray gives us the greatest amount of usefulness in diagnosing fractures in the neighborhood of the joints, and enables us to differentiate between dislocation and fracture. We may think that it is easy, but I have in mind a case that was diagnosed a dislocation of the knee joint, compound in character, that went to operation with that diagnosis, and the correct diagnosis was not made until the specimen had been amputated and examined afterwards. It was a fracture just above the condyles of the femur instead of dislocation, showing that the diagnosis is not as easy as it is sometimes thought to be.

In fractures of the humerus there is often an involvement of the musculo spiral nerve. Frequently the callus involves the musculo spiral nerve and produces paralysis. I saw a few days ago, in the practice of Dr. H. H. Grant, a gunshot wound of the arm where the injury did not involve the nerve, but the callus did, and produced paralysis.

I am glad to have seen the plates.

Dr. Guest: I have a very unusual case of retained placenta, of eight weeks' duration. Last Monday night I was called to see an Italian woman thirty-six years old who had sepsis, temperature 102°, pulse 120. Upon taking a digital examination I could feel a piece of placenta sticking out of a very large cervix. I advised operation.

She consented, and I did the operation early the next morning. The placenta had evidently been in the cervix for a long time acting as a plug. It was the largest cervix I had ever seen, and I did not have to dilate at all to introduce my hand. I introduced my two fingers at first to remove the placenta and found it very soft; it was broken down, more so than any I had ever seen. I had a great deal of trouble in entirely detaching it; the bleeding was very great. I slipped my hand around in the uterus several times to see that it was all removed. After getting it all out the woman was bloodless. To show you how large the cavity of the uterus was I introduced three one-inch sterilized bandages each ten yards long, which just about filled up the uterine cavity.

The most remarkable part was that she aborted eight weeks before, and the placenta had remained in the uterus all this time without producing greater sepsis and death. The woman is not improved. Since the operation I have given two intra-uterine injections Thursday morning and last night. In both the intra-uterine injections the water returned perfectly clear, showing there is no trouble at present in the uterus. To-night her temperatvre is 104.5°, pulse 135, and she does not look like she would live twenty-four hours.

Have any of you gentlemen ever known of a case where the placenta was retained for two months? What treatment should be employed other than what I have done? There is no use in giving intra-uterine injections when the water returns clear.

Dr. Wathen: There is only one point that I would like to speak to. I differ from Dr. Guest. I think the intra-uterine injection is indicated. The color of the water that returns means nothing. The temperature shows a septic condition there. In many cases of puerperal sepsis we have no discharge and no odor, and yet have the most virulent type of sepsis; in fact, most all the books on obstetrics, and especially Williams, speak upon that particular point.

Now, the treatment in these cases should be to introduce one of these metal irrigators, and irrigate with carbolic acid or any solution. Carbolic acid is recommended by the majority. You should irrigate every hour or half hour until you get some decided result.

Dr. Hendon: It occurs to me that in this class of conditions it is impossible to draw the line as regards sepsis. This is a very good term, and the point I make is that there are two kinds of sepsis, sapremia and septicemia. If the condition is one of sapremia, which we know to be due to the absorption of the product of saprophytic

bacteria, then local applications give the best results. If we have a case of septicemia in which we know the micro-organisms themselves both live and multiply in the blood current, then local irrigations can be of no benefit. In cases of sapremia we get brilliant results from local treatment. But if we have a septicemia, which I take it this woman has, then local treatment is not going to do much good.

After this length of time it is assumed that we have a septicemia, and we have live organisms in the blood current.

If it were my case I would use the streptolytic serum. I would give twenty minims every six hours until I got some sort of results. I have never had the opportunity to verify its usefulness in this sort of condition, but I have personal knowledge of a case of tuberculosis in which this serum was used. There were about thirty-three bulbs given in ninety-seven days. It had no effect on the tubercular organisms, but it absolutely eliminated the streptococci.

I am merely going on the premise that she has a septicemia, and I should think that she is a good subject for trial at any rate.

Dr. Hibbitt: Dr. Guest brings out some interesting points. The placenta that has remained in the uterus for eight weeks has no doubt produced a condition of septicemia, but we should remember that the septic condition there is not confined to the uterus, but extends to the tubes and ovaries by this time, and probably involves the peritoneum. He made no mention as to whether the woman had peritonitis or not, nor whether she was tender over the abdomen. We sometimes find on making an examination a collection of pus back of the uterus in the posterior cul-de-sac that produces this septic condition, with high temperature and rapid pulse.

In some cases we confine our treatment to the interior of the uterus when the collection of pus causing the high temperature is posterior.

Dr. Davidson: In this case I think we have three conditions to look for—a sapremia, septicemia or a pyemia. If the condition has been going on for eight weeks the trouble may be in the posterior cul-de-sac. If we have a septicemia irrigations will not do much good. If we are going to irrigate every half hour or hour, as Dr. Wathen suggests, I should think it would be better to use normal saline solution on account of the danger of carbolic acid poisoning. Dr. Guest did not say whether the entire placenta was retained or a portion of it. We have often had cases where a portion of the placenta was retained for six or eight weeks. In those cases irrigations would remove the portions remaining, and the patient would get well.

It looks to me like a septicemia, and I would suggest, as Dr. Hendon has, that the streptolytic serum be tried.

Dr. Speidel: In this case it seems to me that the retained placenta had slipped from its original location, and had formed adhesions in the cervix. The patient undoubtedly during this time was suffering from a sapremia. In removing the placenta the adhesions were torn and the mucous membrane of the uterus injured, and the patient is now suffering from a septic infection which entered there.

There is a great diversity of opinion as to the treatment of these cases, some advising repeated irrigations. Pryor, of New York, advises one irrigation and packing the uterus with iodoform gauze.

I have had an experience in an extreme case of septic infection lately in which the patient recovered. I do not like the use of the streptolytic serum. I have used it in several cases. In one case I used it in large quantities, seven bulbs in forty-eight hours, without any results at all.

In this extreme case I had excellent results with collargol. It is an albuminate of silver, the silver salt of the ung. Crede. It can be used internally per rectum, seven and one-half grains dissolved in a quart of water, and two ounces of this solution introduced into the rectum twice a day.

In this patient, after two weeks' treatment with this remedy, she had a normal temperature, and is now convalescent.

Dr. Guest (closing): I am confident that the woman is not absorbing from the interior of the uterus. I do not think she has an abscess in the cul-de-sac or an abscess of the ovaries, because she is apparently without pain upon pressure over the abdomen. I used the intra-uterine injection last night most freely, probably nine quarts of water.

I think it is a case of septicemia without any localized manifestation at present. I had made up my mind not to use any more intra-uterine because the water returned so clear and seemed to do so little good.

Later Dr. Guest reports:

I gave her ten grains of calomel the next morning, which acted freely. Her temperature and pulse slowly came down to normal, and she made a complete recovery. There was not the slightest discharge from the uterus, therefore no more intra-uterine injections were used.

I believe continued irrigation in this case would not have been of any value and probably harmful.

Dr. Morris presented paper, "Tonsillar Hypertrophy, under Original Articles, page 9, this issue.

Dr. Dunning S. Wilson: It is a matter of great interest to the general practitioner to have the subject of tonsillar hypertrophy so well presented, and it is to be regretted that we did not hear more about the faucial tonsil. Those of us who are in general practice are apt to meet with a greater number of those cases than of the so-called pharyngeal or lingual tonsil.

It seems to me in my limited experience that a great number of children have enlarged tonsils, and they also serve as foci of infection, not only in tonsillitis, but, as the doctor has mentioned, in other infections, as in diphtheria, and as an avenue of absorption in scarlet fever.

I am sorry that we have not heard more of the treatment of this class of cases. Certainly a rheumatic condition and growing pains are often to be referred to a tonsillar trouble.

The other day I saw a young girl with tonsillitis. She had been complaining of headache and fever, and upon inspection I was able to discover hypertrophy of the tonsils with the follicles infiltrated. After treating this case for three or four days this girl developed pains in the legs, and in about ten days the mother came to me and asked me if they were not growing pains.

I wish it were possible for some one to explain the relationship between rheumatism and tonsillitis. There is a close relationship between tonsillitis and rheumatism in many of their subjective and objective symptoms, and it seems to me that there must be some infection, and that the uric acid theory of rheumatism is soon to become obsolete.

Dr. Adolph O. Pfingst: I want to commend this paper as practical and instructive, and I feel sure that all of us have gained some points of information.

In speaking to the subject I will endeavor to confine myself to the faucial tonsils. I believe that speaking of the third tonsil or the pharyngeal tonsil as hypertrophied tonsil is a misnomer, because we have no tonsillar tissue there. In the fauces we have the normal tonsillar structure, and when that is enlarged we can speak of enlarged tonsils. That is not true in the pharynx, where there is only a small amount of adenoid tissue normally.

In speaking of hypertrophied tonsils I believe that we do not always get the proper conception of the term. All of us have seen enlarged

tonsils subsequent to a follicular tonsillitis. Strictly speaking, they are not hypertrophied tonsils. The swelling will subside, and in ten days after the acute inflammation the tonsils will be down to normal size.

The question then arises: What shall we call a hypertrophied tonsil? It is hard to draw the line between hypertrophied tonsil and the normal; in fact, it would be hard to describe anything like a normal tonsil. Sometimes they are so small that we do not see them, and we say that the individual has no tonsils; they are hidden between the pillars of the fauces.

When they are enlarged the lymphatic cells are increased around the crypts. If we see them protruding between the pillars obstructing the breathing we generally call them hypertrophied tonsils. When they give rise to the symptoms the essayist has described I believe the indications are for removal. When hypertrophy is marked the diagnosis is easily made upon inspection. We will often find them overlapping each other or rubbing against each other.

In the cases where the tonsils are of moderate size it is important to determine whether they are causing symptoms or not. You general practitioners see these cases more than the specialists. Frequently the general practitioner brings such cases to the specialist, with the request to remove the tonsils, the advisability of an operation having been decided upon by the physician and the family of the affected child. In deciding whether the tonsils should be removed, we must be influenced by the presence of remote symptoms like reflex cough, which is sometimes present, and deafness due to pressure upon the eustachian tube. I think that they cause an engorgement in the naso-pharynx, increasing the enlargement of the third tonsil. If we can make out these points it is clear that the tonsils should come out. Even if the tonsils are large, if the child is not a mouth breather and there are no reflex or pressure symptoms, I do not believe they ought to be removed. If a mother presents a child with attacks of tonsillitis every three months you can promise relief by removing the tonsils.

Dr. Taylor: The one point I wish to make clear is that all cases of enlarged adenoid tissue or tonsillar tissue should be removed. We have adenoid tissue in the faucial tonsil, in the pharynx and nasal cavity, in the larynx, in the thoracic cavity and the abdominal cavity; it is distributed throughout the body wherever the lymphatic vessels have openings. Normally, the little opening or follicle is surrounded by adenoid tissue. An hypertrophied tonsil is usually considered a

tonsil in which there is new fibrous tissue with increased adenoid tissue. The frequent inflammatory attacks which occur in these cases attach the tonsil to the pillars, which interferes with the contraction of the palatine muscles, which impairs the hearing. The greater the enlargement the greater the interference with hearing and the greater the tendency to retain the secretions in the tonsil more frequent attacks of acute tonsillitis.

As to the rheumatic conditions spoken of by Dr. Wilson, follicular tonsillitis and rheumatism, as generally considered, have no connection whatever. Follicular tonsillitis, with the absorption of toxic materials, will produce the aching of the extremities, but with the subsidence of the tonsillitis the rheumatic symptoms disappear, showing that it is simply a matter of absorption from a local infection in the tonsil, and is limited from five to seven days.

The pharyngeal tonsil is usually adenoid tissue. Occasionally we find fibrous material mixed with the adenoid material. On account of its interference with breathing it is more important that you should remove adenoid tissue from the pharynx when enlarged than the faucial tonsil.

It is common for practitioners to tell the patient they will outgrow the trouble, with the development of the cranial bones the air passages enlarge, which relieves to some extent the embarrassment to the patient's breathing, but does not relieve the patient by absorption or disappearance of the growth.

I removed the adenoids from a young lady's pharynx within the last thirty days. She was eighteen years of age, and was sent to me by Dr. Barbour. This young lady had some tonsillar trouble; with the removal of the adenoids it disappeared.

I removed adenoid tissue from the pharynx of a young lady, a singer, eighteen years old, with marked benefit to her voice, who had been the subject of adenoids in childhood. Adenoids are frequently congenital, and will remain throughout life unless removed surgically.

Snuffles in a child while nursing was formerly thought in all cases to be due to syphilis, but is frequently due to adenoids, and should be removed as soon as diagnosed. Enlarged tonsils are due to excessive lymph in the system. Frequent attacks of inflammation increases both the fibroid and adenoid tissue.

I prefer chloroform anesthesia for removing adenoids, carrying it only. So far as to overcome resistance and never to profound anesthesia. I do not believe I have ever seen a recurrence when

enlarged tonsils or pharyngeal adenoids were thoroughly removed. Tonsils and adenoids should be removed whenever enlarged.

Dr. Guest: The essayist did not touch on the treatment. Dr. Pfingst brought up the question of removal of tonsils under an anesthetic, which is of great interest to me. I would like to ask the doctor if he removes both tonsils under one anesthesia, or does he remove one and in a few days remove the other? Several years ago I removed both tonsils under one anesthesia. Dr. Tuley gave the chloroform for me. I removed the right tonsil and waited four or five minutes for hemorrhage which failed to show, and then I removed the left one. There was no hemorrhage for probably ten minutes afterward, but it came with a gush then from the left side. I had some perchloride of iron and painted the stump well, but it did no good. I was fearful that I was going to have a death on my hands in a few minutes. I introduced my thumb on the left side and made pressure on the site from which the tonsil was removed, and kept it there for forty minutes, which completely controlled the hemorrhage.

Dr. Boggess: I have nothing to say except to express my thanks to the essayist for his interesting paper to the general practitioner. The ground was very thoroughly covered. I would like to have said something of the importance of tonsillar hypertrophy in children, but it is very late, and I will not say anything.

Dr. Barbour: I am sorry I did not hear all of the doctor's paper. This is one of the things which the doctors in the children's line have considered a great many times. An interesting point is whether they should be operated on or not, and what the indications for operation are. It seems to me that Dr. Taylor takes the position that all cases ought to be operated on. I think the better position would be when enlarged adenoids give rise to any symptoms then they should be operated on. Sometimes operations for adenoids have been followed by deafness or death, and a man hesitates to advise an operation for a minor trouble when death may follow that procedure. I think the indications ought to be pretty well defined for operation.

These are first the presence in the throat or pharynx of very large masses which interfere with respiration. I think the interference with respiration is a greater danger than the danger of removal. One bad result of these enlarged adenoids is the effect produced on the growth of the child. When a child has difficulty in getting oxygen into the lungs it is going to be stunted, the chest is not expanded as it should be, and the child will grow up chicken-breasted. When the child

becomes a mouth breather they ought to be removed. Secondly, there is interference with the mental development. Some one has ascertained that the lymphatics at the base of the brain anastomose with the lymphatics that pass through the adenoids. It is possible through these lymphatics that meningitis occur by extension through the lymphatics to the basis of the brain. Enlarged adenoids frequently cause pavor nocturnus. When oxygenation of the blood is interfered with or when cerebral derangements are manifested the operation should be performed.

Dr. Morris (closing) : I just want to call the Society's attention to the fact that I stated in the beginning of my paper that I was not going to take up the treatment. Had I gone into the treatment it would have required a paper two or three times the length of this one. My idea was to bring before you the symptoms that might help you to diagnose these conditions when they are present.

As to the form of tonsil which might be called a hypertrophied tonsil, it is pretty hard to say. I think Dr. Taylor expressed my views. If they do not give any trouble, do not interfere with deglutition or respiration, do not give rise to repeated attacks of sore throat, or abnormal throat sensations, they should not be taken out.

As to anesthetics and hemorrhage ; they apply to treatment, and I did not mention them.

Dr. Barbour did not hear all of my paper. I referred to the cases he speaks of. Dr. Guye has given it the name of aprosexia.

I thank the members of the Society for their kind words in regard to my paper.

Dr. Pfingst : Personally, I have never removed the two tonsils at one sitting. We know that hemorrhage following this operation is more frequent in the adult than in the child, and if you have hemorrhage to contend with I would prefer having but one side to deal with.

As to the question of anesthetics, I prefer to remove the tonsils without an anesthetic, for the simple reason that we get the individual in the erect position, and we are accustomed to work in that position. If we use an anesthetic it is used in the recubment position.

PROCEEDINGS OF LOUISVILLE CLINICAL SOCIETY, DECEMBER 6, 1904.

Dr. W. H. Wathen: I will report a case of interest to every general practitioner as well as the specialist. On last Thursday a patient at St. Anthony's Hospital consulted me. She was seventy-four years old, in general good condition, with no appearance of malignant disease, though with some anemia.

The history of the case was as follows: For one, or probably more months, she had some discharge from the vagina, a little discolored with blood. Examination revealed a mass protruding through the neck of the womb into the upper part of the vagina, the cervix being dilated larger than a silver dollar.

The next morning I put her on an operating table in the dressing room, and with my fingers and a very large blunt curet removed from the uterine cavity a mass of pale, clotted blood nearly twice as large as a child's head. The neck and walls of the uterus were soft, with no evidence of malignant degeneration, or indication of disease elsewhere in the pelvis. The womb contracted well, and in a few minutes I put the woman in bed feeling perfectly well.

We have in young women hematometra where there has been a congenital or acquired atresia of the cervical canal or vagina or an imperforate hymen with an accumulation of blood in the vagina or both vagina and uterus because of an inflammation of some kind that has closed the vagina by adhesion. But here is a woman seventy-four years old, who had no trouble until one or a few months ago. This blood could not have accumulated in the uterus with the cervical canal patulous. My theory is that after she passed the change of life there was an adhesion of the cervical canal occluding it entirely, and that an artery ruptured and the blood gradually accumulated and dilated the uterus, which contracted in efforts to expel its contents, and finally tore open the adhesions closing a cervical canal.

I had another case several years ago in a woman sixty-five years old, in which there was nearly as much blood in the uterus as in the first case, but the cervical canal was closed, and I opened it and drained.

This case is unique in my experience, and I do not think you will find many cases of this kind reported.

Dr. Flexner: I should think that in a person of her age there would be considerable degeneration of the arteries and she had a

ruptured vessel with an accumulation of blood in the uterine cavity.

Dr. Weidner: I would like to ask the doctor whether it is his opinion that this blood has been accumulating for a long period?

Dr. W. H. Wathen: The os was occluded, and it accumulated from a ruptured vessel just as Dr. Flexner suggested.

Dr. W. Ed. Grant presented paper, "A Few Thoughts on Medicat Life Insurance," under original articles page 1.

Dr. Weidner: I hardly know how to discuss the paper. The paper is written by a gentleman who has had so much experience in this line that there is hardly anything to add.

I take exception to the point that there ought to be any difference between an ordinary practitioner and the life insurance examiner; I must take exception in the interest of the profession. Dr. Grant thinks that a man should be especially qualified to observe and keep his mind on the patient; I think every doctor should have these qualifications; he must observe every moment while he sees the patient.

Dr. Grant has given us the picture of the man who ought to be a life insurance examiner; he ought to be an honest man, an intelligent physician, a diplomatic and business man. I think any one who has these qualities will make a good examiner after some training.

The questions put in many of the life insurance examining papers, particularly in some of the smaller companies, are the most senseless that were ever put to a man that otherwise would know his business. Many mean nothing, while others cover the ground very thoroughly. I consider it senseless to ask, "Have you had Bright's Disease?" This point the examiner ought to find out. It is useless to ask, "Have you had apoplexy?" and a good many more. On the other hand, many important questions are omitted. Questions in relation to stricture of the bowel are rarely asked. It is true that this is a hidden field. They do not require an examination of the bowel, so far as I know, in any of the companies I have been dealing with.

The question as to drink the doctor has covered admirably. He has given us an excellent illustration of what ought to be done on the part of the physician. He ought to give the company his own opinion in regard to this point, and not the opinion of the patient.

One of the most difficult things is the examination of the urine, particularly so in drinkers and periodical drinkers, and on account of the universal use of various drinks we can hardly be careful enough. I have not forgotten one instance where I rejected a man because his urine had a specific gravity of 1,005; I examined him late at night;

he had taken several glasses of beer; I went around and examined the urine the next morning and found it had a specific gravity of 1,005; I found nothing else, no albumen, no casts. The man was in the liquor business and is living to-day, and as healthy a specimen as any man. Some of the companies do not require a microscopical examination, and that may give rise to a great deal of difficulty. On the other hand, the companies are often too strict on certain points. In one case I know lately the doctor found a few leukocytes in the urine, and the applicant was rejected. I think that is wrong. If we reject every man that has had gonorrhea we are going to reject a great many men. Still, this is one of the most difficult questions.

I would warn the doctor about one statement. He speaks of taking the specific gravity of the urine, and making an examination while it is warm. I think we examine the urine for albumen better when cold. It is a well known fact that warm urines may give a reaction of nucleo-albumen and mucus, which will disappear when the urine is cold. The specific gravity is also lighter.

I congratulate Dr. Grant upon his paper. I was not at all astonished that he gave us an excellent paper. I looked for nothing else.

Dr. Leavell: I want to voice Dr. Weidner's congratulations to Dr. Grant for his excellent paper. There is no one more capable of writing a paper on this subject.

I think we should look at the subject from four standpoints. First, the company, because we are to a certain extent protectors of the company, then the agent, the applicant and ourselves. I think if we take these four things into consideration thoroughly we will about sum up all that life insurance should be.

As to the company, we should carefully examine every applicant, so that nobody gets into the company who is not a good risk, thus saving the company any unnecessary expenditure of money on those who should have been rejected by the examiner.

We owe it to the agent to get to the applicant promptly when the time has been set for an examination, and if the applicant is not there we ought to be content to wait for a few minutes. We should help the agent all we can to get the applicant into the company, because he has put more time on this applicant than you will. He has gone to see him probably twenty times during a period of two or three years, and it represents a good deal of labor on his part.

Our duty to the applicant is important. I think we can often be

hypercritical. We can put down on paper things that will appear to the Medical Director to be of considerable interest, whereas if he could see the applicant himself he would pass by lightly. The man might have a slight rhinitis or an ordinary cold that might not amount to anything at all and may amount to a great deal. But if this is looked into, and it is found that this man two or three days previously had taken a long ride in the country exposed to cold that has set up this trouble, it may disappear in a day or so. If we put this down in black and white, making a mountain out of it, the applicant may be turned down on this point, when in reality he deserves to pass.

Very often we are impressed with questions that seem unimportant, though they may mean a great deal. This blank refers to the examination of women in a certain company. It asks certain questions that seem to be out of the range of the medical man to get, and ought to be gotten by the agent. First, "Is your husband insured?" That may mean something to the Medical Director as to whether the man carries insurance, and wants his wife insured in some company. "Who is to pay the premiums on this policy?" That is important because we sometimes find a person who wants to get insured; he knows he is in bad health, and he wants to get through. This man may die in a short time, and he may be the beneficiary.

There are other clauses that I would like to go into if I had the time.

I think a medical examiner should be, in a large measure, a business man, because if he does not understand the business part of life insurance he misses a great deal as medical examiner.

Dr. J. R. Wathen: I enjoyed the doctor's most excellent paper, and I know of no one in this community who could write a paper on this subject from the standpoint of experience, and cover the ground as well as Dr. Grant.

There is only one point that I would like to speak to. I have never been an examiner for any company. I notice that the large companies over the country have formed the habit of selecting young men from those who are on special terms with the company, and training these men two or three months, and sending them out as examiners. They select them from a mercenary standpoint; it is cheaper. I was told that is the reason. They get these young men, and train them in New York for a few months. Now, if that is the policy of the company all insurance will be a farce.

Dr. Griffiths: I think the line ought to be drawn on the examina-

tion of an applicant at his place of business. I have had a good deal of experience in examining for various companies, and to me one of the most difficult things is to examine a business man at his place of business. It will take more time, and everything will distract your and his attention, and you can not make the examination as thoroughly as you can in your private office or at his home.

Another thing, there ought to be one physician for a company, and that physician selected at the home office, and he should communicate with the company direct and not through the agents. Some of the biggest rascals I have ever met were in the life insurance business.

I examined for the Germania Company for a number of years. I was appointed as examining physician to this company by the home office, and I was entirely separate from the agent, and I got my directions from the home office. I sent my examinations sealed; the agents were not to know the nature of the report. In many cases, where you give an adverse opinion, it does not please the agent as he thinks it should and he will send the case to another doctor to examine.

I was Medical Director for a Company, and you would be surprised at the rascality I encountered. I remember a batch of applications that came from South Carolina. The doctor had filled them out beautifully; he stood well in that community. There were ten applicants; every one of them had a pulse of 72 and respiration, and normal temperature. I rejected the whole business and removed the examining physician, and recommended prompt removal of the agent at that place. There is an immense amount of rascality practiced. I do not want to reflect on some of these agents, but my experience has been that way. With a doctor too severe they will turn him out or reduce his business, or go to another company. The general agent is afraid of the company, and the agent is afraid of the doctor. I think it best that the examinations be made, as far as possible, in some private place—if possible, in your own office, and your report made direct to the home office independently of the agents that represent the companies.

My experience has been pretty much the same along the line of pension examiner. The only difference is that the man applying for a pension is just the opposite of the man applying for life insurance. I remember one man that came before the Pension Board, and to hear his statements he had everything on the face of the earth; that same man came to me to be examined for life insurance, and to hear his

statements then he was the healthiest man I ever met, and I just knocked him in both.

I am very well pleased with Dr. Grant's ideas on examinations for life insurance. I think, however, the few suggestions I give might be beneficial.

Dr. Satterwhite: I have done a great deal of work in this line during the past thirty years. The examiner's status were entirely different from what they are to-day. If you follow out Dr. Grant's article you will have to have quires of paper. I believe that every man in this house will bear me out that multiple examiners is the cause of more worthless policy holders than if you only had two. A company that recognizes its own interests, as well as the interests of the policyholders, should have but two examiners, a chief and an assistant. There is not one who has done any life insurance in the last twentyfive years that does not know that if a medical examiner turns down many applicants the agents will take them to another doctor who will not be stringent in his examination.

Some twenty years ago I was sent by one company to examine a grocery and saloon man. As soon as I put my ear to his chest I found that he had cardiac disease. I rejected the risk. I got my five dollars, but the policy never reached its destination. They got a doctor down in Parkland to examine that man for five thousand dollars, and he was accepted. He died in a year or two.

Now, I wrote to the Medical Director of the company, and told him those facts; I got no answer; I wrote again and registered the letter so that he should get it, and I sent a copy to the President of the company in another envelope. I did not get an answer, and I went to see them. I was received very cooly; they said they would investigate the matter. The man was a patient of Dr. C. W. Kelly; neither he nor I ever knew whether an investigation was ever held; the agent was never removed. He committed suicide by shooting himself some two years afterwards.

All companies want business, and they won't have an agent that can't get business, and agents often get business by going to a doctor and saying, "If you will give me insurance I will give you examinations that will more than pay your premium. After you have examined for him awhile he will leave you and go to another doctor.

Multiple examiners are against the interest of the companies, and there should be but two examiners.

Dr. Irwin: Dr. Grant has spoken very fully of the qualifications

of the medical examiner. Medical examinations are not proving what they ought to be to the companies. Experts in life insurance have shown that a competent agent will determine almost as good a risk as the average medical examiner. This, I think, is hardly a fair comment on the physician.

I have been connected with many companies, one after another, and have given them up one after another. I am now connected with one company as referee. I appoint the examiners for my company in Kentucky. I make it a rule to appoint one examiner in every little town, and where there are two or three thousand inhabitants I appoint two. In the city of Louisville I have three. We try to do good work; we do the best we can for the company. Dr. Grant has told us how the investigations should be made. To sum it up briefly, we are not trying to find disease. Clinically, we try to find how much disease the patient has; when we come to make life insurance examinations we try to find how much health the applicant has. I think we should know something of the history of the applicant. The family history is of great importance, and the knowledge of heredity is of importance. The history of the father and the mother, the brothers and sisters and the grandparents on both sides to a certain extent enter into the calculations of every risk. It is rare that we see a first-class risk—that is, first-class in every detail.

Dr. Coomes: I wish to say that I enjoyed the paper very much. I also wish to say that it is a sad commentary on the medical profession that the insurance companies have arrived at the conclusion that examinations are worthless. As physicians we know that there is no truth in the assertion.

An officer of an insurance company told me a few years since that he had no faith in medical examinations so far as insurance was concerned. A short time subsequent to that period, the company with which he was connected came near being wrecked, and only for interference from the outside it would have suspended business.

In reference to the examination of urine, I knew a German who was in the habit of taking his whisky and beer, but certainly not to an excess. He was rejected by a company in this city because of the low specific gravity of urine. It has been nearly twenty years since this rejection occurred, and the man is in good health at present, and bids fair to live out a good long lifetime.

Dr. Morris: I was much entertained by the carefully prepared paper of the essayist, and I am sure that it was all that could be asked.

There is just one point that I wish to refer to. In my experience of ten years as an examiner for several companies, the thing that has given me the most trouble is the correctness of the drinking man—I mean how to get the drinking man to tell the truth. I write very little of what he says. There is absolutely no dependence to be put in our examinations as far as that goes.

Another speaker referred to another thing that always impressed me, and that is that the company requires too many questions to be asked by the examiner; they ask numerous unnecessary questions that bear in no way on the final result of the examination. I believe if this matter were left to a conscientious, competent examiner he could pass on the question himself, and make up the verdict and send to the company. Whether he should pass or not pass we would get as good results in the end.

Dr. M. K. Allen: I think the paper has been pretty well discussed and I have little to say.

If I were to employ a man to examine applicants I would get a man of integrity and ability, and in whom I had the utmost confidence, and I would require him, after the examination of an applicant, to write the certificate telling that the applicant had been properly examined, and was entitled to receive a policy.

A great many questions, as suggested by Dr. Weidner, mean nothing; the fact of the matter is that they are gotten up by the medical directors, and formulated simply with a view of earning five thousand dollars a year.

There is one thing in connection with life insurance that I would mention, and that is our inability to get a correct family history. In a town were there is a large foreign population this is all guess work with the applicant himself; he does not know anything about his family, and the examiner has no way of getting at the truth of his statements.

As to the drinking part that Dr. Morris refers to, I think if we follow the views of Dr. Weidner and Dr. Morris, there would be few people insured in Louisville. All insurance companies are great corporations for making money. They will take saloon keepers with organic heart disease, as Dr. Satterwhite has said. If one examiner does not pass them they make it convenient to find some other one that will.

It is a great money making business, and the examiner gets but a small fee.

Dr. Henry E. Tuley: I only have a few words to say as regards the Citizens' Life Insurance Company, which I represent. It has been my pleasure to see to it that the medical examiners's blank goes direct to the home office. It does not go through the agent and he does not see it at any time, and if any confidential remarks are made the agent knows nothing about them. Though our Executive Committee wished to hold the fee down, I insisted upon a five dollar fee for every examination, and an additional five dollars if a microscopical examination of the urine is necessary. A microscopical examination of the urine is made when the examiner thinks it is necessary, or when the home office requests it.

A great many points have been brought out in both paper and discussion that will be of great assistance to me in my work.

Medical examiners frequently do not take into account the question of the longevity of the risk, what the life expectancy is in a given risk. This should be more carefully considered at the time of the examination, taking into consideration the diseases that the applicant has had that affect his longevity.

The Actuarial Society has arrived at some interesting conclusions, and have established statistics as to just what kind of risks can be accepted by the company. A per cent. of 80 is given as the point at which the risk can be accepted; that is to say, that for every dollar paid into the company, eighty cents can be set aside to pay that risk if the death claim is filed.

You would be surprised how some diseases, family history and weight are represented by these figures of the Actuarial Society.

The question also comes up as to syphilis, upon which I do not believe much stress was laid by the essayist. No matter when the disease was contracted it is represented by 146.

So many points came up for consideration as to which risks are acceptable and which are not, that a few words in a short time can not possibly cover all the ground.

As to the question whether we can do away with the medical examiner, my opinion is that it can not possibly be done. We can not possibly estimate a good risk without a thorough and careful examination.

Dr. McCormack: It has been a great pleasure to me to hear the essayist's paper. I wish every examiner in the State could have heard it. My experience is possibly unique in life insurance work. I examine for about twenty-eight companies, and my experience has

been rather along the line of Dr. Griffith's remarks. Applicants are rarely rejected. I examine from fifteeen to thirty-five or forty monthly. Almost every company has an examiner in my town or in the country surrounding the town except one or two. If the agent is any account he knows which applicants will be rejected and which will be accepted. I only examine applicants that will pass unless he makes a mistake.

I appoint the examiner's for a number of the companies foi the State; I appoint examiners for nearly all of the third district, and my experience has not been in one county alone. There are some counties in Kentucky in which the companies are afraid to write insurance. They can only get examiners that will represent the applicant and himself; the company and the other fellow are left out. This is a serious problem that confronts the companies in the country. This is not the fault of the medical profession, but the fault of the companies. As long as they appoint two medical directors in one town they will have this difficulty.

I am satisfied that with most medical directors my recommendation at the bottom of the application counts more than the examination. I think that there is much less in the examination than in what is written at the bottom of that examination. In making examinations for some companies I adjust a great many risks, and they have accepted my adjustment of the risk in every case.

It is a curious fact that in a great number of men examined who could not get life insurance, there has not been a single death, and they have lived over nine years.

So many questions arise in this connectiont, hat if the doctor had not written his excellent paper it would be a temptation to speak for a long time. It seems like a repetition to say anything.

Dr. Grant (closing): I have been much pleased by the kind words that have been said of the paper, and I feel greatly complimented. There is much that I would like to say, but I have no time to say more.

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ORIGINAL COMMUNICATIONS.

THROMBOSIS.*

BY JOHN B. RICHARDSON, M.D.

Having lately had a personal experience of a thrombus developing in the internal or long saphenous vein of my right leg following a laparotomy for the relief of an acute intestinal obstruction—acute as far as the premonitory symptoms indicated—of the smaller bowel (jejunum), which operation was performed under the strictest and most approved technique, a rigid aseptic technique, at the hands of some of the most skillful, capable and experienced of my professional brethren, I feel I can speak *ex-cathedra* concerning the character, quality and degree of pain which preceded and attended the intestinal obstruction, with its rapidly exhausting effect upon the "abdominal brain," and also of the semeiology of the formation and development of the thrombus, about twenty-three days after the laparotomy, which so perfectly relieved the intestinal obstruction, had been made. Believing a description of them might prove of interest to the members of my profession, and might enable us to arrive more promptly at the diagnosis of cases of thrombosis and institute the proper treatment at an earlier date of its development, and thereby save much suffering, as well as the danger of embolism in cases of this nature, prompt me in writing this paper.

The abdominal incision, which was made in the linea-alba between the umbilicus and the symphisis pubis healed throughout by "first intention," or what is designated by the later writers by "simple adhesion," or "healing without suppuration." On this point Nancrede, in his "Principles of Surgery," page 20, says: "Hence, there is no longer room for such terms as 'aseptic' and 'infective

* Read before the Louisville Clinical Society

inflammation,' but only for 'repair' and 'inflammation,' because the latter is always due to the action of germs or their products, *i. e.*, 'microbic' (or 'true') inflammation." No pain manifested itself in the line of incision until the removal of the stitches, and then only during their removal.

About ten days after date of operation I suffered some pain between the internal and external malleoli and the Tendo-Achilles, which gradually extended up the calf of the leg to the popliteal space, and thence one-half wayup the posterior thigh, and from that point it deflected too the inner aspect of the thigh up to the saphenous opening. This pain was of a darting, rheumatic or neuralgic character, with exacerbations, irregular but severe. I concluded, from its location, that I was suffering from an attack of sciatica, but could not comprehend why the pain did not ascend along the sciatic nerve up to the sciatic notch, but be deflected after reaching a point midway between the popliteal space and the sciatic notch to the inner aspect of the thigh. This pain almost disappeared at the end of two weeks, at which date, or, more particularly, on the fifteenth day, I left the Infirmary, and was carefully and slowly driven in a coupe to my residence. The next ten days I spent in an easy chair with my legs resting on a pillow on a chair on the same level as the chair upon which I sat. I took some gentle and slow walking exercise on the same floor as my room. About nine days after, that is, the twenty-fourth day after operation, there was an increase of pain in my leg, and upon retiring I observed some edema of my foot and ankle. The next night when retiring my foot was so edematous I had difficulty in removing my shoe. The next morning my attendants examined the leg critically, and at once diagnosed aseptic thrombosis. At the saphenous opening the pain was of a burning and pricking character, with a feeling of fullness, as though something within the abdomen was being gently pushed toward and about to become engaged in the saphenous opening, and then the foot first, and ankle, then the calf of the leg, and subsequently the posterior and inner aspects of the thigh became edematous. Now, as to the pain attending the constriction of the bowel. On the last night of the year I was wearied from a day's hard professional labor; but aside from weariness I felt perfectly well, all my functions being regularly performed. But at 2:30 A. M. I had an acute colicky pain which was located in the abdomen, a little below the junction of the ascending and transverse colon, which I could locate with accuracy. Believing it to be caused by some undigested food, I took a full dose of

effervescing sulphate of sodium in hot water. This neither lessened the pain or changed its location. This pain was paroxysmal and remittent, and its severity gradually increased, and by 6:30 A. M. it became unbearable. I had my son called, who after careful examination concluded it was not an attack of appendicitis, but obstruction of the bowel at or near the point at which I first felt the severe pain. Gradually the pain extended to the opposite side of the abdomen at a point a little below the junction of the transverse and descending colon, then around the umbilicus, and finally became general over the entire abdomen, yet the acme of the pain remained at the starting point. I then took five grains of calomel, followed by a high enema, with no effect. At 7:30 A. M., having used hot applications continuously of moist and dry flannels, council with my friend, Dr. T. P. Satterwhite, was had. He endorsed diagnosis and treatment, and concluded to administer tablespoon doses of castor and olive oil every two hours until the bowels acted freely. The pain continued and increased until it became unbearable and I felt I was being rapidly exhausted.

There were some symptoms which obscured the diagnosis and location of the constriction, so my surgeons desired further counsel; when my good friends, Drs. Cartledge, Vance and Schachner, joined them, and upon consultation they all agreed that I must submit to a laparotomy at once, to which I most willingly acceded.

I had always appreciated the fact that the pain accompanying a constriction of the bowel, as well as in appendicitis—in most cases of the latter disease—was not only an exquisitely painful degree of suffering, but was not aware, prior to this personal experience, how exhausting it was, and that feeling of threatening collapse which attends when the "abdominal brain," the sympathetic nervous system, bears the brunt of such agony, and to this add the fact of no intermission of pain occurring, a lessening, but no discontinuance, no resting place; perhaps a slight diminution, and then a marked increase until the acme of agony is reached that nothing can mitigate until a positive diagnosis has been reached, and a full hypodermic dose of morphia and atropia has been administered, and then you are, to use the expression an old gentleman patient once employed when I had thus relieved him when suffering with an attack of gall-stone colic; "Doctor, you have truly taken me out of hell and placed me in heaven."

Upon the diagnosis of thrombus I was ordered to bed, to elevate

foot and leg, to aid the "return circulation," until collateral circulation was established, and not to assume the upright position or walk until the pain had disappeared; continue hot dry flannels, and take eight grain doses of aspirin every three hours, which gave me great relief. My temperature was at no time very much above normal. Appetite, although I was confined to bed, was all that could be desired, and my functions, as a rule, regular, salines being employed if alvine dejections were not regular.

Since reading quite broadly upon this subject, and in conversation with professional confreres, I have been impressed with the general experience, that thrombosis frequently follows cases of typhoid fever. Personally, this does not accord with my experience. More remarkable has been the occurrence of thrombosis following the operation of laparotomy performed under the most perfect and approved technique. Why so it is to my mind difficult to explain. "A ligature, phlebetis or varicose veins are the most common causes of thrombi." "Acute rheumatism, syphilis, continued infectious fevers, or surgical shock, where the heart is extremely weak, all favor the formation of thrombi." (International Text Book of Surgery, page 893.) In my case I was on the broad road toward recovery, as far as any untoward symptoms appreciable to me, the subject, or to my experienced and watchful attendants could observe, the wound had healed through its entirety by first intention; not even the least local soreness or tenderness, much less local pain, had at any time existed. I had recovered from all shock caused by either the operation itself or from the anesthetic. All my functions were being physiologically performed, when the pain at the point described between malleoli and Tendo-Achilles appeared quite suddenly, suggesting at first the muscular pain of rheumatism, and later more severe, very like neuralgia, and then extending up the leg, resembling sciatica. This continuing several days, then edema of the foot then of the ankle, lower leg, and then of the thigh, as above narrated. The greatest enlargement occurred in the calf of the leg and on posterior aspect of the thigh, and at and around the saphenous opening. By rolling the palmar surface of the extended fingers across the leg transversely to its long axis the enlarged veins could be readily felt as large cords.

In an article by Dr. E. R. Secord (*Montreal Medical Journal*, page 605, September, 1903) he remarks: "Certain complications following operations are not within the control of modern surgical technique. Hemorrhage and sepsis have almost disappeared from surgical work,

but there remains fatalities due to anesthetics and certain vascular complications which can not be anticipated," and I would add of which we have no premonitory symptoms, either of preternatural temperature, increase of pulse rate, or local redness or pain, warning us of the initial trouble in the arterial or venous systems. He then cites a case of thrombus of the femoral veins which followed an aseptic laparotomy, the patient having been operated on for double inguinal hernia. On the twelfth or thirteenth day following the operation shooting pains occurred in the left groin and popliteal space and calf of the leg. An indurated cord could be made out occupying the position of the long saphenous vein. A diagnosis of venous thrombosis was made, the leg elevated, and moist applications made.

Dr. Secord cites cases following appendectomy, and says: "The cases were not connected with the operation, but with conditions calling for the operation."

In my case there was no local infection. The wound healed throughout its entirety by first intention. I had no local or systemic indications of the occurance of thrombosis until twenty or more days had elapsed after operation, and then the appearance of pain resembling an attack of sciatica, first at ankle then in calf of the leg and extending up the back of thigh, as before described.

There was no preternatural temperature, no local redness or increase of local heat, and therefore it was not of septic origin. The leg macroscopically presented that appearance peculiar to phlegmasia alba dolens, which occurs in some cases following parturition. Tanner describes such cases as follows:

"There is tumefaction of the limb from inflammation and obturation of the main veins and lymphatic trunks leading from it, and is due to the imbibition of poisonous materials by the uterine veins. The fascia cribiformis, which is thickly perforated by the lymphatic trunks from the inferior extremities, becomes inflamed by extension, either of inflammation of the peritoneum along the sub-peritoneal tissue, or the crural vein, the result of uterine phlebetis."

In phlegmasia alba dolens the absorbent system is chiefly involved, whereas in thrombosis we have as causes either an aseptic or septic phlebetis.

Ziegler, a late authority, in his work on "General Pathology," pages 144–5, says: "Thrombosis occurs most frequently in cases of degeneration and inflammation of the intima of the heart and blood vessels, as well as under certain conditions which cause slowing of the

circulation, as, for example, compression, narrowing, dilatation of the vessel, fatty heart, stenosis, and in insufficiency of the valvular orifices, etc. Perforating wounds of vessels, crushing of the vessel wall and laceration of the intima lead likewise to the formation of thrombi, and thrombitic precipitates are formed also upon foreign bodies lying in the vessel."

The causes of thrombi may be distinguished as "traumatic," "infectious" and "thermic, as well as those resulting from degenerative changes in the wall, foreign bodies and tumor proliferation. Still further sub-divisions, as to location, we have the "parietal" and "valvular thrombi." Where a vessel is completely closed by a thrombus it is known as "obturating thrombus." The coagula first formed is termed "primary" or "autochthonous," and those subsequently deposited upon these "induced thrombi." When thrombi occur in the heart they are usually formed chiefly in the intertrabicular heart wall, and by accretion form "heart polypi." In the arteries thrombi most frequently occur behind constrictions and in dilatations. In the veins they sometimes form "valve pockets," from which they develop into "obturating thrombi," or they may form in a small vein and extend into a larger vein. Cases have been recorded where a thrombus began in a small vein of the lower extremity and finally grew to the inferior vena cava, and even reached to the heart. Where they occur in the smallest vessel they are the result of disease in the surrounding tissues, especially those of an infectious and toxic inflammation and necrotic process. They are composed of colorless elements of the red corpuscles fused together into a homogeneous mass, and also contain thready fibrin. The first deposits in cases of "parietal" thrombi consists of delicate translucent or whitish layers. The fully formed is a hard, dry mass, closely adherent to the inner surface of the vessel. Some are at first soft and moist, and finally become calcified. The chalky concretions are known as "phleboliths," and those forming and degenerating in the arteries as "arterioliths." Calcification is the most favorable sequela in the life of a thrombus. In simple softening the central portion of the thrombus becomes changed into a grayish red or gray, or grayish white grumous mass composed of disintegrated and shrunken red corpuscles, pigment granules and colorless granule debris. Should this softening process extend to the superficial layers of the thrombus, and the blood current be sufficiently strong, these disintegrated products may be swept along the circulation. Where larger parts are thus washed away arterial

thrombi may be produced. Should yellow or septic softening occur the thrombus breaks down into a yellow or grayish yellow or reddish yellow pus-like, grumous, creamy, and at times a foul-smelling mass, composed of fatty and albuminous detritus and micrococci; the intima becomes cloudy, and purulent inflammation results in the media and adventitia, as well as the tissues about the vessel. "Organization" of a thrombus is the most favorable result, that is, a "substitution of the thrombus by vascularized connective tissue."

Ziegler page 350, says: "Masses of coagula within the blood vessels, which are called thrombi, give rise, in case no infection occurs, to an inflammatory—that is associated with cell emigration, proliferation of the vessel wall—a proliferating vasculitis. This process corresponds exactly to the inflammatory proliferation of serous membranes. It is immaterial whether the thrombus has been caused by a preceding inflammatory process, or by any other conditions, inasmuch as the presence of the mass of coagulum is sufficient to cause inflammation and tissue proliferation. The first change introduced in the substitution of the thrombus by connective tissue is here also the appearance of fibroblasts which arise from the vessel wall, and later, with the aid of vessels growing in from the vessel wall and its neighborhood, form an embryonic tissue, which later on changes into connective tissue. The complete substitution of an obturating thrombus or an embolus, leads to the obliteration of the vessel lumen by vascular connective tissue; The substitution of a parietal thrombus, on the other hand, results in the formation of fibrous thickenings of the vessel wall. As the result of an imperfect substitution and liquefaction of the part not substituted, there arise strands and threads of connective tissue which cross the lumen of the vessel. The calcification of portions of thrombi not substituted by connective tissue leads to the formation of vessel stones (arterio or phleboliths)."

Now, what form of dyscrasia exists either as a precedent, concomitant or resultant, in cases requiring the performance of a laparotomy for their relief that thrombi should form? for the reports of cases show the most approved aseptic technique had in all of them been carried out. Is it a result of shock either from the operation itself, or of the operation plus the administration of the anesthetic? If of the latter alone, why does not thrombus follow the administration of anesthetics in other cutting operations? Is its occurrence peculiar to operations where the peritoneum has to be divided, and the cavity of the abdomen has to be invaded? These are questions to be answered

in the future, after further experience and observations along these lines of research.

Should it follow where the wound does not heal by first intention and become septic in its nature, then it would be easy of explanation, and of bacteriological origin. My judgment is, after all laparotomies, the patients should remain longer in bed, or at least be kept quiet physically for a longer period than is usually required and carried out by the surgeon, say at least three or four weeks. I remark this, as I know in my own case my good professional friends reluctantly yielded to my often expressed desire to leave the Infirmary and return to my home and family on the fifteenth day after the operation had been performed, although I was progressing well in every respect, though somewhat weak physically; and I wish to sound this as a warning note to patients to exercise greater patience than the majority of them manifest after operations, although they may feel well in every respect. This applies with greater emphasis where the subject is advanced in years. I do hope to hear the experience of other professional gentlemen on this subject, and attract the attention of those who have not observed the fact that cases of thrombosis may follow laparotomies.

I would disadvise the usually prescribed treatment in these cases of moist applications to the affected limb, fearing I might by their employment soften the thrombus, and thus enable the force of the blood stream set a portion or portions in motion towards the pulmonary artery, and then through the cerebral vessels towards its most undesirable stopping point in the middle meningeal artery, thus causing embolism. From whatever cause thrombosis has formed, it increases in size rapidly; the blood stream, as it passes over it, deposits fresh layers of fibrin, until the calibre of the vein is obstructed at the extremities of the clot—distal and proximal—these concretions form until complete obstruction takes place, forming an "obturating thrombus," and this clotting ceases only by the effect of the blood streams of a junction trunk.

It is unusual for the clot to become organized. It more frequently happens that both clot and veins contract and form a firm and shrunken cord.

One mode of cure is, the clot sometimes contracts toward one side of the vein, and the blood stream is allowed to pass, and the circulation is re-established, and cases have been recorded where the circulation has drilled an opening through the center of the long axis of the thrombus, and thus re-established the circulation through the

vessel. Oedema of the parts below the obstruction is the first visible symptom of thrombus, but the symptom upon which I wish to lay particular stress, and the one which preceded the edema in my case, was the pricking, shooting, rheumatic or neuralgic pain below and above the point at which the thrombus first formed, and this symptom of pain should lead us at once to establish quietude, and elevate the affected limb, thus preventing the continuance and increase of suffering, and also diminishing the danger of setting in motion a clot, with its attendant consequences.

Through the administration of proper tonics, and prescribing of easily digested food, we may remove the dyserasia, and expedite the subject's recovery.

Iron, strychnia and stimulants should be exhibited. The establishing of the collateral circulation requires in some cases many month's time, and great care should be enjoined, as to over or too violent exercise for apparent reasons. I can not refrain from remarking what a wonderful provision it truly is, that vessels of a certain calibre, having allowed a given—but varying, of course—quantity of the life fluid pass through them for years, the closure by a thrombus of a larger vessel throwing upon the smaller collateral vessels the task of transmitting a double quantity of blood perhaps dilate slowly, and finally assume this double duty for the balance of the subject's life. Truly, "the hand that formed us is Divine."

Since penning the foregoing paper, I have observed in the New York *Medical Record*, May 14, 1904, page 792, a report of the Association of American Physicians, held in Washington, D. C., May 10, 1904. Dr. Thayer, of Baltimore, Md., read a paper on "Cases of Venous Thrombosis Occurring in the Course of Typhoid Fever," stating his observations were taken in Dr. Osler's wards at John Hopkins' Hospital, and out of 1,462 cases of typhoid fever there were thirty-nine instances of venous thrombosis, or 2.6 per cent. Five of these thirty-nine resulted fatally. The lower extremity was the seat of the thrombus in all but a very few of these cases. Twenty-one were in the femoral vein, five in the popliteal vein five in the iliac vein, in the calf of the leg five, in the saphenous five. In twenty-six cases the development of the thrombosis was associated with fever; in thirteen cases there was none. In eleven of the thirty-nine cases the complication was associated with chill. The first distinct symptom was pain, and in the instances of femoral thrombosis the pain was along the course of this vein. In twenty-two cases a leucocytic count

was made, the highest recorded being 24,864, the lowest 2,700.

Dr. George L. Peabody, of New York, referred to the giving of calcium salts to increase coagulability of the blood, and the likelihood of thrombosis lessened by administering citric acid, which reduces the solubility of the salts. A careful blood count was made in my case by my son, and the leucocytes and erythrocites were found to be normal.

Conclusion: After laparotomies patients should be confined for a longer period of time than is usually required, say three or four weeks, thus giving more time for the thorough union of necessary abdominal incision or incisions to unite. Gentle physical exercise insisted upon for some months after. Careful watchings for first indications of a forming thrombus. Pricking pain being the first symptom I experienced, preceded by a feeling of fullness along the line of the vessel involved; upon occurrence of which symptom patient should be ordered to go to bed, assume supine position, and the leg, which is usually the extremity affected, elevated, not allowing patient to leave his bed until most of the edema and pain, especially upon use of the member, has disappeared.

Tonics with iron, stimulants, plus proper food for the rapid upbuilding and toning up of the general system, should be instituted; no local friction or massage should be employed, fearing their use might cause loosening of an embolus, and its being engaged and set in motion by the blood current, which might result disastrously. I have before stated, as I conceive, valid reasons for the contraindication to the employmennt of moist applications, for I have observed a major number of authorities recommend their employment.

CARE OF THE THROAT IN PULMONARY PHTHISIS.*

BY DR. GEORGE A. ROBERTSON.

The study of tuberculosis is very interesting. The time being devoted to investigations in this particular field show how keenly alive to its importance are all the leading spirits in the profession to-day. Upon the early diagnosis depend all chances of doing more than staying for awhile the progress of the disease. If we make this early diagnosis we can offer some prospect of recovery. I am one who feels sure there is a large amount of hope for the consumptive, and that in time this disease will be less often met in our work.

It is my desire to make plain some few facts in the care and treat-

* Read before the Louisville Society of Physicians and Surgeons, December 15, 1904.

ment of throat complications which aggravate pulmonary tuberculosis, and thus, if possible, eliminate from our practice the distressing cases of laryngeal ulceration. So many times neglected cases come to the specialist with laryngeal involvement where it is easy to see the trouble might have been avoided. It impresses upon me more and more the value of careful and regular examination of the throat in all cases of well developed phthisis. And it is wise, in cases where run down conditions, inherited weaknesses, or tubercular family history make us fear active diseases will develop, that a thorough acquaintance of the nose and throat conditions be gained.

Let us take up the suspicious cases first. Weak and sickly children, those whose parents were tubercular; cases where colds and catarrhal troubles do not clear up; prolonged convalescence and those of greatly lowered vitality, are all favored subjects for beginning tubercular disease. We take careful note of the color and tone of the mucous membranes. Should the nose be blocked by spurs septal ridges or great "boggy" turbinates, the lack of air space makes for two conditions: either very shallow breathers, who do not find vigorous exercise possible, or mouth breathing, both of which conditions are injurious to healthy membranes. Open up the nostrils, make as much space in the nasal chambers as possible. Should there be in addition adenoids, or large and diseased tonsils, we have another cause for our care. Patients with adenoids or hypertrophied tonsils have ever a vulnerable point where foreign substances lodge and decay, where germs thrive and multiply. In debilitated states could anything be more undesirable? How many cases there are where absorption goes on constantly from these and nothing is done, cases treated for indigestion or autoinfection of intestinal origin being often in this class. I am persuaded we do not appreciate this condition seriously enough, nor do we realize the way these organs when diseased retard development by lowering vitality. These facts ought to be so clearly recognized by the profession that no service is well rendered till the patient is free from all probable sources of infection. So much for suspicious cases and those inheriting a tendency to pulmonary disease.

Now we come to those who have the disease, "the real lungers." They require a thorough overhauling and clearing up of the nasal and pharyngeal spaces, making the complete toilet of the upper respiratory passages. As soon as the diagnosis is made this ought to be done, that we may know what we have to deal with. Then are we through? No! for we must exercise our full authority to change the surroundings

of the patient. All atmospheric conditions that are deleterious to respiratory surfaces must be avoided. If the case can not go to the mountains or out into the desert, not even to the clean pure air of the farm or country village, but instead must continue working in the dust and grime of the city we have to do with what is at home. Impress upon the patient the value of taking in all the good air there is, and get as much out of door life as possible. There are dangerous trades, one hardly knows how many, till some subject like this comes up. Get your case out of the dust and away from the noxious fumes, the grain elevators, the polishing departments of the factories, the lint and fuzz from the cloth in the sweat shops, not considering the emanations which come from the human beings crowded together in dark, close rooms, nor the total lack of ventillation, which are exceedingly bad for the lungs. This constant inhalation of irritating particles is hard on the throat, making the lining membranes lax, full of blood, congestion with loss of tone, so that when the day's work is done and the patient goes out into the fresh air, instead of the cold causing a rapid contraction and stimulation to the circulation. there is greater congestion due to the loss of tone and still more favorable lodging places for infectious particles. In examining these throats there will probably be many changes in the nose and pharynx due to climatic conditions, but we are especially interested in the laryngeal tissues, for it is in this region we look for most trouble as the case goes on into advanced consumption. We have plainly in mind the deplorable condition of tubercular ulcerations of the larynx; the pain on swallowing, the choking, the inability to raise the sputum, the terrible thirst, and the slowly starving patient. Let us anticipate and avoid cases of this sort by early care. With our laryngeal mirror we see the tongue full, the throat relaxed, the laryngeal tissues swollen and red at times; "boggy" I call this condition. There is a slowness of action of the muscles, and the cords do not approximate as in health. Along the wall there is fullness and some sagging, perhaps a small fold of mucous membrane wedges in between the cords. It makes the voice rough and husky. This is suspicious, and we are looking into a diseased larynx. This is not necessarily a tubercular process, though the majority of cases are. At this time the throat feels full, and the patient is constantly clearing the throat, but there is no mucus to clear away, only a fullness which feels like some foreign substance that ought to come up. It is surprising how this hawking and scraping will aggravate a larynx, and scratch it till it looks like raw beef.

Two-thirds of the coughing in tuberculosis is unnecessary, even worse than useless, for it is so irritating. When there is phlegm the cough is needful, but much of the time nothing comes up when the patient coughs, and all he does is to scrape and tear the membrane. Explosive cough is distinctly bad. It soon becomes a habit. Each cough makes one try again, hoping this time to clear out the irritating substance, which in all probability is a patch of congestion or an exposed nerve, and coughing from this cause has no result except to bruise the tissues. Incidentally, I might add, that explosive cough is considered one of the ways infection is spread, scattering small particles of sputum, which by the sudden explosion fly out in every direction. In my experience coughing is easy to manage in an institution. Only in the morning was there any great amount of it It was a point of honor at the Sanatorium never to cough in the dining room. When there was need to expectorate the patient would retire to a small room where all sputum cups were left during meals. During all my service I never saw a sputum cup in the dining room, and there was no coughing.

How easy for these larynges, congested, sluggish in action, torn by harsh use, to be infected by the sputum which constantly flows over the posterior wall and the base of the arytenoids. When careful observers like Makenzie tell us only about 35 per cent. of all cases have laryngeal involvement and not more than a third of these are tubercular, the other two-thirds being catarrhal, the specialist feels that his care is highly necessary and beneficial. As to his care I do not think it means heroic treatment. I have seen bad results from vigorous use of many applications. I do not advise or approve of local applications in routine work, for the result is bruising of the larynx. Even in evident ulceration it is rarely wise to touch the throat. Depend on cleansing sprays and simple alkaline washes. Enjoin the greatest care of the voice where there is huskiness and beginning hoarseness, or periods of loss of voice; even to the use of the whisper only in conversation. Forbid all use of the voice when there is great fatigue. Control the cough and be constant in your examination of the throat, for prevention is the best means of dealing with all the throat complications of tuberculosis.

A REPORT OF SOME CASES.*

BY G. A. HENDON, M.D.

Professor of Surgery, Hospital College of Medicine, Louisville, Ky.

The first case I shall report occurred during the second year of my practice. I was summoned fifteen miles in the country to see Mrs. G., aged thirty-nine, primapara, who had been married sixteen years, and was at that time six months pregnant. Twelve hours before I saw her she began to be seized with putrperal convulsions, which condition rapidly progressed until, at the time of my visit, she was totally unconscious, and the convulsions had begun to lap over each other. Her surface was cyanotic; the lower lip was bitten entirely through, and a bloody froth was exuding from the mouth. Her pulse was barely perceptible. Upon digital examination I found the os sufficiently dilated to admit my index finger, and after much difficulty I was able to introduce two fingers. The circular fibers were hard and firm, producing a ring with what felt like a cartilaginous circumference.

My equipment then available consisted of a pocket case and a pair of obstetric forceps. Employing the groove between my two fingers in the os as a guide I cut between them with a scissors on the anterior lip of the cervix, dividing the band of fibers in the direction of the long axis of the body. I was then able to introduce my hand and perform version and evacuate the uterus. No hemorrhage occurred, and the patient made a perfect recovery, although she did not regain consciousness until forty-eight hours later; in fact, so deep was her coma that we did not find it necessary to employ anesthesia for the operation.

Case No. 2.—Mrs. S., aged thirty-nine, presented with procidentia and a perineal tear dating from the birth of her first child twenty years previous. She had all the train of symptoms common to this ailment, and was in a very low state of health. Her youngest child was eleven years old. I had her removed to the Norton Infirmary and repaired the laceration, cureted the uterus, and made a ventral fixation. Exactly one year from the date of the operation I delivered her of a full term child. She went through the pregnancy without discomfort, and the labor was normal, and in no wise disturbed the artificial moorings of the womb, or caused any tear in the perineum.

* Read before the Academy of Medicine of Louisville, December 7, 1904

Case No. 3.—J. B., aged eleven years, who had been sick twenty-four hours when I first visited him. I found him with a temperature of 104°, pulse 140; abdomen swollen, tense and rigid, extremely tender all over with no special point of tenderness, the pain being disseminated over the entire abdominal region. He gave a history of a sudden onset of the symptoms, vomiting and constipation. Although it was 10 o'clock at night, the weather bitter cold, and the patient lived in the country, I had him rolled in blankets, and removed to the Gray Street Infirmary.

On reaching the hospital the pulse had dropped to 120 and the temperature to 102°. The pain and nausea subsided, and after consultation the operation was deferred.

The patient next morning seemed much better; temperature 99°, pulse 100; bowels moved by enema, and the plan of management suggested by Dr. Ochsner was adopted. Steady improvement was noted for four or five days, when the symptoms began gradually to grow worse. The case was at once brought to operation. The appendix was found buried deep in the pelvis behind the rectum, lying in an abscess cavity. The organ was gangrenous, and had perforated on the mesentery border near the extremity. The abscess cavity was walled off with gauze, and a Mikulicz drain carried down to the bottom. The patient reacted well and went along smoothly. On the morning of the third day the gauze packing was removed, and in four hours the temperature went to 103° and the pulse to 136. The abdominal distension became extreme, and every evidence of septic peritonitis became apparent. Matters progressed in this manner during the next forty-eight hours. After hard work with high enemas, etc., the bowels moved, and prospects became brighter. The patient was eight weeks in bed, and finally recovered with a ventral hernia.

Case No. 4.—A. K., a male, aged twenty-nine, seen on Thursday evening at 7 o'clock; had been sick since Monday. The history and present status of the case warranted a diagnosis of appendicitis in the period of defervescence. I instituted the Ochsner plan of treatment with hot bran bags to the abdomen, and by the following Monday the pain had all gone and constipation had disappeared; the pulse and temperature were normal. On the Thursday following I was called again, and found the symptoms had all returned in an aggravated form; the temperature being 103° and pulse 112. The prominence of the abdomen in the right hypochondrium plainly indicated the abscess. The patient was brought to operation the next day at St. Anthony's

Hospital. The pus was buried deeply down in the pelvis between the rectum and the bladder, and was evacuated after the adjacent perineum had been protected with gauze pads. Cigarette drainage was used, and the protecting gauze was allowed to remain until the eighth day, when it was removed with remarkable ease and without pain to the patient. The granulating surfaces of the abdominal wall apposed with strips of adhesive plaster, and the patient made a good recovery. At no time succeeding the operation was the patient's condition unsatisfactory. The bowels moved with a low glycerine enema on the second day, and the pulse never rose above 100.

In this connection I will report a case which illustrates another type of this protean malady.

CASE NO. 5.—E. M., a male, age thirty, sent to me at 2 P. M. on Sunday. The history of his sickness dated from 8 o'clock the same morning. It consisted of pain in the epigastrium and one attack of vomiting; the bowels had moved before breakfast. His temperature when I saw him was normal, pulse 84. He had pain all over the abdomen, more pronounced in the right lower quadrant and severe over the epigastrium. I gave him a placebo and saw him at 7 P. M., at which time the pain had increased in severity. The patient was very obese, but I thought I could detect rigidity of the right rectus. Pulse 90, temperature 99⅘. I diagnosed appendicitis and advised operation, which was accepted. The next morning the patient was carried to the Gray Street Infirmary, and laparotomy was performed. On going to operation the pulse was 96, temperature 99⅘. There was no vomiting, but the bowels failed to move after enema. The appendix was found floating free in the cavity, swollen beyond a constriction to three times its normal size. It was already gangrenous, as you can see by the specimen I have to show you. It contained a dark, grumous pus, with a foul cadaveric odor. The patient made a prompt recovery. This case serves to point out how well the real conditions may be masked by the absence of systemic manifestations.

CASE NO. 6.—About May 30th of last year I was sent for in the country to see A. P., aged three and one-half years, a male, who had fallen out of a buggy, and suffered a dorsal dislocation of the hip. The displacement was readily reduced under anesthesia, and dressed with a Buck's extension. This was allowed to remain two weeks, and upon its removal the limb assumed the well known posture of a backward dislocation, namely—flexion, inversion and adduction. The limb was then dressed in plaster of Paris in extreme abduction, with a

long board splint on the outer aspect. This dressing was allowed to remain on one month. Before applying this dressing the child was anesthetized to make sure the dislocation had not recurred, and the dressing was applied under the anesthetic. The deformity was found to be due entirely to muscular spasm, as it could be made to disappear altogether under the influence of the anesthetic. When this dressing was removed at the end of a month the little patient was left free, but kept in bed. At the end of a week the deformity had all returned. The limb was again dressed in plaster, and the patient allowed to go about with crutches and a high shoe on the good foot. This treatment was persisted in for something over two months, and when the dressing was removed the limb lapsed again into the same condition—flexion, adduction, inversion and shortening. The patient was then allowed to go without any support except crutches and a high shoe on the good foot, but the deformity failed to improve or progress. Then, at the suggestion of Dr. A. M. Vance, who saw him in consultation, he was sent to the Children's Hospital, and placed in bed with a Buck's extension. In twenty-four hours all deformity disappeared, and the injured limb showed half an inch longer than the other. This treatment was persisted in for eight weeks, and the patient sent home with a molded leather brace, crutches and a high shoe. There was a slight relapse of adduction which produced about half an inch of shortening, which is the condition now, a year and a half after the injury. It was not deemed advisable to apply any further methods of treatment, and all appliances are removed, and the child allowed to run at will. The result in this case is far from perfect, but the patient is by no means a cripple. The recital of this experience may serve to illustrate the effect of age in an injury of this kind. The injury must be very rare, because I have not been able to find one reported as early as three and one-half years. We are taught that dislocations of the hip when reduced and dressed in extensions usually recover in three or four weeks. That may apply with adults, but it evidently does not in children of tender years.

Case No. 7.—A very robust mulatto woman, aged forty-five, applied to me on account of a fibroid tumor, which was giving her trouble by its mechanical pressure. The case was operated on jointly by Professor McMurtry and myself. The tumor proved to be one of the heavy set variety, and had to be removed by morcellation. The patient made a smooth recovery, the incision healing by first intention at the end of the fourth week. She was sitting up in her bed, and had

been promised she might go home in a day or two. I was called one night about this time, the nurse saying that Kate's pulse was feeble. She had dyspnea and a terrible pain in the left leg. I realized at once the gravity of the situation, and gave instructions accordingly. When I saw the patient in two or three hours dissolution had commenced. The left thigh was swollen to twice its normal size and marbled; the whole limb was cold and pulseless. Dyspnea was the most distressing of all the symptoms. The patient died within another hour, and, although no post-mortem was held, the clinical evidence was sufficient to warrant the conclusion that an embolus had lodged in the popliteal vein, had been detached and carried to the pulmonary artery, plugging the vessel and producing death. Whence it came I have no means of knowing, unless from some of the large sinuses that supplied the fibroid. This case illustrates the extremely hazardous vocation of the surgeon, and how utterly helpless we ofttimes are to deal with an unexpected emergency, and how the most remote of all the risks will be the one to bring us to grief.

CASE NO. 8.—I have here another specimen of an appendix removed ten days ago. I merely exhibit it to show again the extent of pathological involvement in a short time. This young man was about twenty two years of age, and of the short, fat type. I saw him on Thanksgiving night, about two hours after the onset of the symptoms. He had the localized tenderness, and a temperature of 99°, pulse 132. I removed the organ the next morning, about fourteen hours after the beginning of the attack, and was astonished to find the gangrenous condition of the parts as here illustrated, the necrosis extending to the adjacent fatty structure and omentum. The abdomen was closed with through and through silkworm gut sutures, and a cigarette drain communicating with the site of the buried stump of appendix. The patient made a good recovery.

FOLLICULAR TONSILLITIS*.

BY SAM. P. MYER, M.D.

This variety of inflammation of the tonsil differs very little from the superficial variety, the main point of difference being the extent of the structures involved, it chiefly affects the young adult and those of middle life, between ten and thirty-five years of age. Owing to

* Read before the Louisville Society of Medicine and Surgery, December 19, 1904.

atrophy of the lymphatics of the the throat we rarely encounter it in the aged. The attack is usually the result of exposure to cold and wet. Those who have had one attack are more liable to subsequent attacks. The rheumatic or gouty diathesis no doubt plays a part in the production of attacks. The first symptoms noticed by the patient are a dryness and stiffness of the throat, soon followed by difficult swallowing, pain is felt in the back and legs; at the onset there is chilliness, the temperature rises abruptly in a few hours, reaching 104 or 105°; pulse rapid. The extension of the inflammation in the naso-pharynx involving the Eustachian orifices and tubes gives rise to pain in the ear. In quite a number of instances the inflammation produces a catarrhal otitis media. On inspection, which at times is quite difficult on account of the pain it gives to open the month, one or both tonsils are seen deeply reddened and swollen; here and there on the tonsil are seen yellowish or whitish points showing the opening of the crypts. If the inflammatory exudate has been profuse there will be oozing over the surface a serofibrinous material. The symptoms are those which accompany all inflammatory conditions, skin hot and dry, nausea, tongue coated, breath foul, thirst almost constant, obstinate constipation, urine scanty in amount, high colored. If there is an uric acid diathesis, or if cold and exposure have been the exciting factors, small amount of albumin will be found in the urine.

Diphtheria is the most likely in which to be mistaken By the use of the microscope that will easily be determined.

Prognosis is good, but those that have once been effected are more liable to subsequent attacks.

As Sternberg has found twelve different varieties of micro-organisms in the mouth and throat, they very abundant, it is easily understood how any local weakness of the structure of the throat can readily form a nibus for the more virulent organisms and for the entrance of its toxins into the tissues of the body, therefore the preventive treatment is one of extreme importance.

In those that have had repeated attacks much can be done to prevent the recurrence by the daily use of alternating hot and cold douching of the front of the throat, washing the mouth and spraying throat with some antiseptic, thus preventing the accumulation of the micro-organisms

Doubtless many of the subjects of repeated attacks have become so because of the fact that the overlying structures have been unable properly to react on exposure to cold. The one most frequent cause for

this failure for reaction is the bad habit of keeping the throat invested in furs and ruffles, the leaving off at times removes the protection previously afforded.

If the case is seen early much can be done to lessen the inflammatory process by applying a local anesthetic, then using a blunt probe curet opening the crypts and removing as much as possible of the accumulated material, then cleaning the tonsil with hydrogen per oxide, afterwards painting them with sol. nitrate silver 60 grs to ℥i. The stronger solution gives less discomfort than the weaker ones. The silver solution should not be used late in the trouble, as it does only harm.

Again, if it is convenient, instead of using the blunt curet, the crypts can be emptied by using compressed air, as first suggested to me by Dr. P. R. Taylor.

As to internal treatment, the bowels should be opened by small doses of calomel given every hour, followed by citrate of magnesia.

The salicylates are indicated; the best is the stronim salt. Owing to the systemic depression produced by the toxins it is not safe to use the coal tar products, but if used small doses must only be given. Quinnie is reccommended, but do not believe it should be used, as it has a harmful effect upon the ear, and often inflammation is extended into the tubes. As to gargles, I do not believe they ever reach the tonsil, but are good as a mouth wash. When we wish to use an antiseptic wash they are best used in an atomizer or by mopping.

The most serious complication which we meet is where the inflammatory reaction has been so intense that pus formation has occurred. If this should occur prompt surgical interference is demanded. It should be opened with a sharp point curved bistoury, incision being made through the upper portion of the anterior pillar of the fauces, the pus being more frequently encountered there than in the tissue of the tonsil. The incision should be made from the tonsil toward the pharynx so as to avoid injuring the blood vessels lying external and anterior to the tonsil. The diet must necessarily be one of liquid because of the two conditions present, the fever and inflamed condition of the throat. Cracked ice should be given freely, as it is agreeable, and has an advantage in the local treatment.

Convalescence is marked by the extreme prostration, and tonic treatment is demanded by the use of iron, strychnine and arsenic.

711 Second Street.

SOCIETY PROCEEDINGS.

LOUISVILLE ACADEMY OF MEDICINE, DECEMBER 7, 1904.

Dr J. T. Windell: I have a patient to exhibit to-night who has been before the Society on a former occasion, with a perforating ulcer of the foot; the gentlemen present will probably remember the case. This patient has been under my care for nearly two years, and it is with a great deal of satisfaction that I state that the ulcer is cured, although the cure is due as much to the persistence of the patient as to my own efforts. I used everything that had ever been heard of for healing ulcers, and finally tried a sample bottle of a preparation of carbolic acid, alum and boric acid, which has given very satisfactory results.

I do not know what causes these ulcers, but in this case I believe it is due to specific trouble. In addition to the preparation mentioned, the patient has been taking iodide of potassium a great deal of the time.

I have another very interesting patient to exhibit to-night, who has very kindly consented to come here in the interest of science. In 1884 this gentleman had a chancre on his penis. He has at present some scars from the syphilitic ulceration which he had at that time. He undoubtedly had syphilis at that time On the 25th of October last he came to me with a sore on the left side of the meatus, but did not have any sore on the outside of the penis at all. The sore was indurated and did not secrete much pus; in fact, it was almost a typical chancre. He gave a history of several suspicious intercourses, and although having his former trouble in mind, I was able at the beginning to diagnose it as syphilitic reinfection. I think if you will examine this gentlemen you will all agree with me that he has the very rare occurrence of syphilitic reinfection.

Dr Simrall Anderson: I think Dr. Windell is to be congratulated on the result of his first case.

The second case reported by the doctor is interesting. I have seen only one case of a similar nature. The patient, a woman, contracted syphilis the first time from her husband. She recovered from the attack, however, and bore a child. The doctor who attended her at delivery had a chancre on his finger, but did not know it was a chancre at that time. The woman was infected, developed secondary eruption, and had syphilis over again. She has also recovered from the second attack. This is the only case of syphilitic reinfection I have ever seen

Dr. James B. Bullitt: I would like to ask Dr. Windell if he can not tell me something about the course of syphilitic reinfections. I have known that it does occur, but would like to know what effect the previous infection is likely to have on the course of the second, and if more than two infections have

ever been observed on any case the genuineness of which conld not be doubted.

Dr. J. J. Moren: I am very glad to see that Dr. Windell has the perforating ulcer healed up. This is one of the most stubborn conditions we have to contend with, and is liable to recur. They are frequently started by the trimming of corns, or rather what are referred to as corns. The patients try to treat them with various remedies, and in a short time report a chronic ulcer

I know of one case where amputation of the toe was necessary in order to get rid of an ulcer. The wound healed very nicely, and the last time I saw the man he had no ulcer.

Dr. James B. Bnllitt: At the time this patient was exhibited before I remember speaking of the case of a diabetic patient, one of the large, fat variety, who gets along very well by dieting. He had an ulcer located just where this one is. It seemed to get along all right for awhile, but the joint just behind the ulcer became infected, and suppuration occurred. The joint was incised, healing finally occurred, and the ulcer started again, and in the end it was found necessary to amputate the toe. The wound healed kindly, and the patient has gotten along very well since that time.

Dr. W. A. Jenkins: I am very glad to have seen the case of syphilitic reinfection exhibited by Dr. Windell. During several years of service as assistant surgeon on a clinic in this city I saw two similar cases, both of which were probably authentic, as they were diagnosed by reputable physicians as organic syphilis. Concerning the course of the second attack, I believe it is generally milder in character than the first.

Dr. J. G. Sherrill: I would like to ask Dr. Windell if the first patient exhibited by him had any evidences of diabetes. Some time ago a patient came to me with an ulcer similar to the one exhibited. He had been under treatment by a physician, but the ulcer had failed to heal, and at the time I saw him he had infection of the joint. I treated him for awhile, but not getting any satisfactory results finally decided to amputate the toe, which was done.

I have seen very few of these cases, but have never observed them in anybody but diabetics; but, of course, they do occur in cases of locomotor ataxia and other diseases.

Dr. J. T. Windell: In reply to Dr. Sherrill's question I will say that the gentleman exhibited to-night has no sugar in his urine, and never has had.

In regard to a third infection of syphilis, I do not believe the literature on the subject mentions any such condition. I see no reason why the second infection of syphilis should not be as severe as the first attack. I remember one patient who was born with syphilis, and who in his twenty first year contracted the disease again, the second attack being as bad as if he had never had it before. In this case the patient had as much, or possibly more, trouble with the reinfec-

tion than he had with the first attack. I have had a good many cases where the symptoms all pointed to a second attack of syphilis, but none of them were so pronounced as this one. I know of the female from whom this man contracted the disease, and she has active secondary syphilis, which is another proof that this gentleman's ailment is a genuine case of syphilitic reinfection.

I have a specimen to exhibit to night, which was taken by Dr. Bullitt and myself from the bladder of a young man nineteen years of age, who came to me about two months previous to the operation with a history of having something in his bladder which did not belong there, the symptoms being pus in his urine and a frequent desire to urinate, which he did with difficulty. He gave no positive information, however, as to whether or not he had pushed anything down into his bladder. Dr. Bullitt examined him several times with the X-rays, but could not locate anything; neither could anything be located with the searcher or the cystoscope. We finally opened the bladder and extracted this specimen, which is a piece of white wax, which had been formed into a pencil and pushed into the urethra in the act of masturbation.

Dr. James B. Bullitt: The case is one of a great deal of interest on account of the diagnostic difficulties it presented. The boy had symptoms of a foreign body in the bladder, but it was impossible to get positive evidence of it by any ordinary examination. The pain and symptoms continued, however, and it was finally decided to open the bladder, with the result you have seen.

One of the difficulties experienced in locating this foreign body was the fact that it would float on the urine, it being necessary to use the searcher when the bladder was full of fluid.

Dr. Simrall Anderson: I recall a similar case reported by Dr. W. O. Roberts, of this city, who removed a piece of chewing gum from the bladder of a boy. I do not know, however, whether it was used for the same purpose or not.

Dr. Hugh N. Leavell: I have a specimen to present to-night which I thought might be of some interest to the society.

Some few months ago a gentleman consulted me for relief from attacks of what he called indigestion. On palpating in the region of his liver nothing could be detected; no evidence of gall stones, no evidence of any irritation in that region, and no evidence of appendicitis. He was a frequent sufferer from these attacks of indigestion, particularly gaseous eructations. Thursday evening I was called to see him, and found that he had a typical attack of gall stone colic. It was repeated on Sunday night, and this attack lasted longer and was more severe than the first one. It was relieved by the hypodermic use of morphine, and I told the patient this morning to take a pint of olive oil, and to follow that with a teaspoonful of phosphate of soda every three hours. This evening he had two evacuations of the bowels and passed this mass of material which I desire to exhibit.

A great deal has been written about the use of olive oil in cases of gall

stone colic, and a great deal abont the use of remedies which tend to liquify the bile, causing the gall stones to flow out freely. I believe that this specimen is a mass of oil globules which are bile-stained. I have never had much confidence in any kind of medicine for the removal of gall stones, and I believe that these bile-stained oil globules are very often mistaken for gall stones. The patient had some temperature this evening and had a slight reaction, due to the fact that the gall stones had not passed out; or, possibly, they might have passed back into the gall bladder.

Dr. Hugh N. Leavell: I report this case merely to show how easily we may be misled. Here we have a mass of oil globules which look almost exactly like gall stones, and it would not be unreasonable for a patient to suppose that he had passed gall stones; even a doctor might be deceived if he did not make a careful examination.

Dr. L. C. Blitz: There is a preparation on the market which is having a wonderful sale as a gall stone remover; I have had several patients tell me of the remarkable results accomplished by it. Two or three clerks passed supposed gall stones of very large size. Dr. Robbins made an examination of some of these supposed gall stones, and found that they contained nothing but oil.

I tried the olive oil treatment on three patients whom I suspected of having gall stones, but did not get any results. In several cases where there were sufficient gall stones, however, I used it and obtained results similar to that reported by Dr. Leavell, except that the oil globules were not bile stained. Two or three months ago I saw several specimens (one at Dr. Windell's office) which were of about the same consistency as those exhibited to-nigh.t but did not present exactly the same appearance. I have been prescribing eight ounces of olive oil instead of sixteen, but hereafter I intend to give pint doses in a few more cases, and see if the results are the same.

Dr. J. W. Guest: In regard to the use of olive oil I believe that when we give this remedy in large doses the majority of it passes unchanged, and but little of it is digested, and this, in all probability, is what causes the patient to pass the little oil globules. In four or five cases I have given it in doses of two ounces every two hours until from four to six doses have been taken, with the same effect as when given in the larger doses. In one case the patient told me he had passed green gall stones.

Dr. G. A. Hendon: I feel that I can best serve the inerests of the Society by reporting a few cases, and accentuating the points of interest in each, rather than by taking up any single case and working out the literature on the subject. I have, therefore, decided to simply bring to your notice the interesting points of a few cases which have come under my observation.

Report of cases under original articles page 72.

Dr. J. W. Guest: There is one point brought out in the third case reported by Dr. Hendon which I have never heard discussed in any medica

society. I refer to the fact that the patient in this case (a child if I remember correctly) was very ill, and that after his removal to the Infirmary the pulse and temperature both dropped, and he seemed very much better. During eight months of ambulance service in New York and Brooklyn I never saw a case where the removal of the patient, no matter how ill, did any harm; in fact, the great majority of them improved. Why this is so I do not know, but the point struck me very forcibly and I wished to emphasize it.

Dr. J G. Sherrill: The cases reported by Dr. Hendon certainly show that early operation is advisable in most cases of appendicitis, and not only the laity, but the profession in general should be educated to the wisdom of this proceeding. In any given case we are never able to tell just what pathology exists in the abdomen, and every case I see impresses this fact more forcibly upon my mind Ochsner is a man whose opinion carries great weight, and whose plan of treatment is very good in many cases, but I think that, with the public in general, it does more harm than good. He advises that the patient should be put on treatment, and carried through until his condition is suitable for operation. This plan is all right if the patient can be successfully carried through to a favorable time, but we can not promise it

Not long ago I saw a case of general peritonitis following appendicitis. I was called to see a patient one night in consultation with Dr. Ben. Allan. About one week had elapsed since the initial sympton had developed, and rupture had occurred about four hours previous to the time I saw him. Up to that time his pulse and temperature had been normal. On the Monday previous he had been seen by another surgeon who had recommended that operation be deferred until some more suitable time. As the abdomen was rapidly distending and showing signs of sepsis, we deemed it advisable that prompt operation for general peritonitis should be performed, which was done. About a month previous to this time I had seen another case in which the symptoms were almost identical, operation being performed about twenty-four hours after rupture occurred. In this case, however, the pathology was not so marked as in the first case reported.

I operated on another patient last Monday whom I had first seen about a week previous. Diagnosis had been made by his attendant, and the patient referred to me. At the time of operation he had normal temperature and the pulse was not over 80, and had not been for several days. Examination on Thursday showed that he had a small mass in the right iliac fossa. The patient was brought to operation, as stated, on Monday, and upon making an incision I found that the tumor had greatly increased in size, and that the appendix had sloughed off and an enterolith the size of the end of your finger lying in a small abscess cavity. There was a very small quantity of pus not more than ten or fifteen drops. This abscess cavity lay between the cecum and two coils of ilium. The whole ilium involved was black from thrombosis of its vessels, showing an attempt on the part of nature to empty this abscess into the gut. This

patient was in extreme danger, and yet he was walking around attending to his duties. When such cases confront us we can only urge operation in the interim.

Washing out the stomach to relieve the nausea is becoming somewhat popular, and must, therefore, possess some merit, but there is a defect in this plan which should not be overlooked, and that is the fact that the intestine is loaded with cultures of bacteria. I remember a patient who had a very large abscess following appendicitis, and after the abscess was opened a fistula developed. The whole abscess was cleaned out, but the foul feces caused sloughing of the entire wound surface, which did not subside until the bowels were thoroughly flushed, but as soon as this was done the wound commenced to heal. For this reason I believe that there is a defect in Ochsner's plan of treatment. I have never yet seen harm result from purgation ; the danger is not so much from peristalsis as it is from the patient getting up to have a stool.

When Dr. Hendon began to report his hip joint case, and stated that the deformity recurred immediately after he replaced the limb in position, I suspected that the neck of the femur had caught the sciatic nerve, but the later history of the case would seem to eliminate this possibility. After having heard a full account of the case I am unable to suggest any reason for the contraction of this child's limb unless there is some anatomical cause, probably an irritation of the obturator nerve

Dr. Hugh N. Leavell: The fascinating subject of appendicitis having been introduced, I think the gentlemen present are apt to overlook other cases of exceeding interest, particularly the first one reported by Dr. Hendon, illustrating, as it does, that the vaginal route is a very efficient method of delivering some of these hard cases

One point in Dr. Hendon's report which impressed me very forcibly is the fact that the cessation of active symptoms in appendicitis does not necessarily mean the cessation of the disease itself. He cites a case where the patient was removed from some distance in the country to the Infirmary, over a rough road, and the morning after the patient's temperature was two or three degrees lower and his pulse much better, yet later developments showed that the appendix had ruptured and an abscess formed. The pain had ceased. This is the most misleading feature of the disease. What is it due to? Is it caused by gangrene of the appendix or by an excessive amount of serum being poured out? If it is due to either of these causes, I believe operation is best for the patient.

Dr. Freeman will probably recall a case which demonstrates this idea pretty clearly. One Sunday afternoon I asked him to go to the country with me to see one of my patients. This patient had complained of a slight pain on Friday, and on Saturday came to my office suffering intensely. On Sunday morning about 5 o'clock I was called to see the patient, and found himwith a temperature of 104 degrees, pulse about 90. He was a person of rather a

phlegmatic temperament whose pulse was naturally slow. When we arrived there Sunday afternoon the patient's mother met us at the door, saying that her son was a great deal better. We found the boy was not suffering a great deal of pain, and that his abdomen was somewhat flaccid and not distended to any great extent, but his face expressed a great deal of anxiety, which, to my mind, foreboded danger. I told the mother that instead of being better the boy was a great deal worse He was removed to the Infirmary in a surrey in a sitting posture, and with the assistance of Dr. Freeman I removed his appendix, which was found to be not very gangrenous, but distended with pus. This case almost conclusively demonstrates that the sudden cessation of symptoms does not mean that the disease has left the patient. I believe that every case of appendicitis has a better chance for recovery under operation if seen at the proper time.

Dr. F. T. Fort: I have seen several cases of appendicitis which have demonstrated to me very clearly the advisability of an early operation. I recall three or four delayed operations occurring in my early career where I assisted in the operation, and in each case the patient died. One case was that of a boy about sixteen or seventeen years of age, who was very robust. When I first saw him his abdomen was very much distended, with evidence of the beginning of general peritonitis. We told his parents that if operated on he had a slight chance of recovery, but that he would die without it. With their consent his abdomen was opened and found to contain half a gallon of pus.

Another case was that of a woman about forty five years of age, whose appendicular abscess had ruptured. Her abdomen was opened, and perhaps a gallon or two of purulent fluid escaped. Both of these patients died.

I remember also the case of a little boy three or four years old, who had a mass in his right side, which I diagnosed as appendicular abscess. I operated on him, and the cavity was packed with iodoform gauze, which was removed in forty eight hours and little strips of gauze put in place. The patient was well in less than a month.

Another case was that of a woman who had pains radiating over the entire abdomen. Diagnosis of appendicitis was made, an early operation performed and the woman was able to sit up in seven days.

Taking everything into consideration, I believe that all appendicular cases should be operated on very early, within the first twenty-four or thirty-six hours.

In regard to the case of dislocation reported by Dr. Hendon, the peculiar thing about this case is the recurring feature with contraction. I am inclined to think that pressure or irritation of the obturator nerve or its branches has a great deal to do with the contraction.

Dr. Simrall Anderson: I have seen many cases of appendicitis get well without operation. If it can be done within the first twenty-four or thirty-six

hours, it is probably all right to take out the appendix, and I think it can be done with hardly any mortality. I believe, however, that if the patient is let alone after this time limit recovery without operation may be confidently expected in almost all cases. I do not concur in the opinion that operation is the best thing in all cases of appendicitis. I also advocate the interval operation, which I consider safe.

Dr. Wm. A. Keller: Whenever the subject of appendicitis is brought up it always recalls painful recollections to my mind. In 1895 I had an attack of appendicitis from which I recovered, and have never suffered any discomfort from it since.

Of course our surgeons advise operation in nearly all cases, but I believe that more patients recover without operation than with it. Furthermore, I do not believe that every case is operable at any time. Of course we sometimes find a case which must be operated upon, and in that event the sooner the operation is performed the better. In the majority of cases, however, I do not believe the symptoms warrant operation. I remember the case of a boy who went up on an excursion one day last summer and danced nearly the entire day. That night he had considerable pain in his abdomen, which he attributed to something he had eaten, and did not pay much attention to it. The next day, however, the pain was so severe that I was called in. I gave him something to move his bowels and the next day he felt better, but suffered considerable pain during the night. There was no localized pain or tenderness, the pain being general over the entire abdomen. At the end of a week the pains again became very severe, and I was able to make out a tumor. I had him removed to the Infirmary, and opening his abdomen we found that the appendix was gangrenous, but had not ruptured. It was in such a condition, however, that the touch of my finger ruptured it. This occurred a year ago last August, and the patient was discharged from the Infirmary about six weeks ago.

Every case of appendicitis is not an operable one, but I believe that when attacks recur, as they frequently do, after the second attack and especially after the third one, operation is advisable.

Dr. O. H. Kelsall: I can cite a case which seemingly bears out the advisability of early operation in cases of appendicitis.

Last fall I called to see a young man about eighteen years of age who was suffering from appendicitis. He had had four previous attacks and this was the fifth, and in view of the frequent recurrence of the disease, it was decided that operation was the best thing for him. The operation was rendered very difficult by the existence of an extensive pathological condition and by the adhesions, which were very firm and strong. A great deal of difficulty was experienced in exposing the appendix, which lay in a mass of adhesions. After the appendix had been enucleated and preparations were being made to sew up the abdominal incision, hemorrhage was observed coming from above,

and the incision had to be lengthened before its source could be located. I believe this operation would have been much less difficult had it been performed after the onset of the first atiack ; or, at least., in the interval between the first and second attacks.

Dr. James B. Bullitt : The discussion seems to have narrowed itself down to the question whether or not operation is advisable in cases of appendicitis. In my opinion we should ask ourselves the question : What can we do to best serve the interests of our patient, protect his life and save him time, money and suffering. We should not be too deeply impressed with our own experience, and set our opinions against the judgment of the majority. It has been shown that medical treatment in cases of appendicitis will bring about 80 per cent. of the total number of patients through. This does not mean that 80 per cent. of them are cured, but that they are kept from dying in this particular attack. It has also been shown that when an early operation is performed the mortality will not exceed 1 per cent. in the hands of our best surgeons. I believe, however, that it is our duty to prevent these patients from getting sick if possible. and not to allow them to become seriously ill, and then endeavor to pull them through by a surgical operation or any other means. I think that whenever a patient dies of appendicitis the attending physician should ask himself the question whether or not that patient's life could not have been saved if an operation had been performed at the opportune time. I hope that when any of you have another case of appendicitis you will bear this in mind, and exert your efforts to make an early diagnosis and operate at the right time.

Dr Wm. A. Keller : I would like to ask Dr Bullitt if he believes that every case should be operated on as soon as diagnosis of appendicitis is made ?

Dr. James B. Bullitt: I am prepared to say that every case of appendicitis should be operated on early if at all. To say that every case should be operated on as soon as diagnosis is made would lead to very serious error, as many cases are not diagnosed until the opportune time for operation has passed, after which I believe that an operation would be more dangerous than treating the patient without it.

Dr. G. A. Liendon : I wish to thank the gentlemen present for the extended notice they have given the cases I reported

In regard to Dr. Guest's remarks about the effect of removal of patients, I wish to say that the patient in the third case reported was carried a distance of over three miles, on a very cold night, one mile of the distance being over a rough country lane.

I am glad to see that Dr. Sherrill has lined up in favor of early operations in cases of appendicitis. I believe that in cases of this kind we should exert our efforts towards an early diagnosis. If a patient can be operated on in from twenty-four to thirty-six hours after the onset of the disease, the danger is little greater than in taking a railroad journey from here to St. Louis. To say that every case should be operated on as soon as diagnosis is made is an

error, because in a great many instances diagnosis is not made until it is too late to operate. I have never seen a case of appendicitis that did not present, at some time during its course, an opportune time for operation, at which time it could have been operated with safety.

The question of early operation is treated upon at length in a report by Dr. Murphy, of Chicago, based on an experience of two thousand cases of appendicitis. I believe it is every doctor's religious duty to read that report and read it carefully; it will be found in *The American Journal of Medical Sciences* for July, 1904.

In regard to the Ochsner plan of treatment, I believe there are two or three conditions in which it may be applied with good results. One of these is in cases where the patient and the family absolutely refuse to have an operation performed; another is where the disease is entering the period of defervescence. Another condition in which this plan appeals to me is in hopeless cases, where there is general peritonitis, and little can be expected of an operation.

In regard to watching patients to prevent them from reaching a stage where operation is necessary, I do not believe this idea is feasible, and I would not advise a doctor to lure himself into a feeling of false security by folding his arms and saying he is watching his patient.

In regard to the question of recurrence I will say that the patient in one of the cases I reported to-night gave a history of the last attack of appendicitis occurring sixteen years previously. As to the number of attacks I had a patient who had an average of four attendicites every year for five years, at the end of which time he snbmitted to an operation.

Leaving this interesting subject and taking up the hip joint case for a moment, I wish to say, in answer to Dr. Sherrill, that this child has never had any severe pain, which I think would preclude the idea of nerve involvement. I am confident the condition is produced entirely by muscular spasm, because the adductive muscles stood out like cords all the time except when the child was under the influence of chloroform, and I believe the shortening is due to the adduction. The reason I say this is because there was always a prominence of the trochanter.

There are one or two points in the paper which I would like to accentuate, one of which relates to the proper time for removal of the gauze protection. Whenever you pack around an intraperitoneal abscess with gauze, do not be afraid to leave it there. You will perhaps become alarmed, as the gauze will soak full of the foul pus and may, apparently, become itself a depot for the radiation of septic matter. This is a very plausible belief, but it does not apply in practice. All who have done this kind of work have no doubt noticed that the operation of removing the packing after it has been left in for three or four days was very painful. If left in for seven or eight days it becomes loose, and may be removed very easily and without much pain.

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS, DECEMBER 15, 1904.

EXHIBITION OF PATHOLOGICAL SPECIMENS.

Dr. Simrall Anderson: I have here a specimen of tubes and ovaries which I removed this morning at Sts. Mary and Elizabeth Hospital, from a patient twenty seven years of age, the mother of three children. Since the birth of her last child, seven years ago, she has been a chronic invalid, suffering from dysmenorrhea, menorrhagia and the usual symptoms attending chronic salpingitis and oophoritis. You will notice the fimbriated extremities of both tubes are inverted and destroyed, showing infection had taken place at some time The uterus was in extreme retroversion, and was bound down by very dense adhesions, as were the tubes and ovaries The interesting feature of this case was the beautiful way it illustrated the extensive amount of tension which the round ligaments are put upon in such cases of extreme retroversion I removed the appendix also.

Dr. Leo Bloch: We can account for these extensive adhesions from the fact that the patient had pelvic cellulitis. I don't think that there will be any pathological condition of the ovaries discovered, as the inflammatory condition was not caused by any actual disease of the ovaries

Dr. Kincheloe: I simply want to ask, what did the doctor do with the uterus after relieving the adhesions? As I had one case where the uterus was bound down, causing constipation which gave rise to considerable gas in the bowel, which could only be relieved by enemas, and besides there was great pain. I did an oophorectomy, and by breaking up the adhesions freed the uterus, and though there was no pus, and the woman made an uneventful recovery, the pain and discomfort continued as before.

Dr. Blitz: I had the pleasure of seeing this operation, and the adhesions were many. The impression that one gets upon seeing the specimens as now presented, is totally different from the impression at the operation, as it is very difficult to judge how serious the condition was unless the operation had been witnessed. The operation was done so easily, considering the great number of adhesions, that the doctor ought to get nice results.

Dr Duncan: Undoubtedly these adhesions were the result of inflammatory conditions. There was infection at one time in either the tubes or ovaries, which set up the inflammation and gave rise to the adhesions. Pus, however, may have been absent, as we know that it is absorbed when only in small quantities, and at any rate soon becomes sterile after the subsidence of the acute inflammatory stage. There should be no danger from infection unless introduced from without. As to the results to be expected, I should say that after breaking up the adhesions the symptoms should be entirely relieved unless new adhesions occur, and we do know that sometimes denuded surfaces cause recurrence.

Dr. Hibbitt: I don't think it is a question of cause. The uterus was bound down, and from what the doctor says the ovaries were down in the cul de-sac. Though relieving the adhesions and removing the tubes and ovaries will help to bring the uterus up, it seems to me the question is, will it stay up? I believe undoubtedly that relief would follow suspension of the uterus. Dr. Anderson, is the perineum ruptured?

Dr. Anderson: The woman has a very good perineum, slightly torn, as she has borne several children.

Dr. Hibbitt: By this question I wanted to bring out the query as to whether the woman will be less likely to have prolapsus if the perineum had been repaired.

Dr. Koontz: I should like to say just a word. There is always adhesion in a great majority of these cases, and if the pedicle needle is passed low down before being tied, it will bring the broad ligament up and with it the uterus. and prevent it from adhering. I believe in ergot in certain of these cases, as I wish to say, also, that I have never seen a case where ventral suspension is necessary if the broad ligament is properly shortened.

Dr. Simrall Anderson (closing); After oophorectom the uterus shrinks, not requiring as much support, a fact which seems to have been lost sight of in the discussion. Where marked retroversion exists it is my habit, as was done in this case, to take a loop in the round ligament, which brings the uterus up to its normal position. I think the operation will entirely relieve this woman.

Like Dr. Koontz, I have never seen such a case as this, where suspension was necessary after double salpingo-oophoretomy.

REPORT OF CASES.

Dr. Fred. Koontz: Male, colored, aged twenty-seven, on the night of November 26th, while running, twisted his leg and produced a compound Pott's Fracture of the left leg. He was taken to the hospital, where the fracture was reduced and the leg put up in a fracture box. On Monday morning a gangrenous spot appeared of about the size of a dollar around the opening. By 2 o'clock the gangrenous process had extended half way to the knee. Pulse 136, temperature 103½.

Amputation was done at the middle and lower third—next morning the temperature was normal. On the second day gangrene reappeared in the flaps, but rapidly became localized, and is now healed with a good stump. Urine at time of operation normal.

Dr. Bronner: I remember a case at the City Hospital, where the gangrene was of the rapidly spreading character. The patient came to the hospital, and upon examination the distal joint of the thumb was found to be gangrenous. Amputation was advised and done, the thumb being amputated at carpo-metacarpal joint, but by noon of that day the flaps became gangrenous, and another amputation was done at the forearm. The gangrene

still extending, the arm was amputated at the upper third, and finally an amputation was done at the shoulder joint. The patient, however, promptly died.

Dr. Koontz: That is why in the case that I reported I did an amputation a considerable distance above the seat of injury.

Dr. Bronner: Dr. Koontz' reference to the condition of the urine brings to mind a case of gangrene of the toe for which I was asked to make the urinary examination. I demonstrated the presence of sugar, though he had passed several life insurance examinations, at which time no sugar had been found. I have been reading up on the subject, and some authorities claim that injury may bring on a glycosuria, and as this case is to be contested by the insurance companies the fight is to be along the lines as to whether the injury gave rise to the diabetes or not.

Dr. Duncan: I recall another case of gangrene which I saw while interne at the City Hospital. The patient's arm had been caught in the roller of a bakery, and the forearm was lacerated to the elbow, the bone being fractured. He was gotten to the hospital an hour after the injury, and amputation was advised but refused. He was told what would probably be the result unless the operation was done, and after events proved the truth of our statements. Gangrene set in very shortly, and by the next day had reached the arm. About 10 o'clock of the following day the patient agreed to amputation, and though we amputated at the shoulder in six hours the surrounding tissues were involved, and he very promptly died. I mention this in order to bring out the fact that it would have been impossible to prevent such dire consequences if operation had been allowed and amputation done immediately at the upper third of the arm.

Discussion of Dr, Robertson's paper, "Care of the Throat in Pulmonary Tuberculosis." under original communication, page 70.

Dr. Blitz: I am certainly glad to have heard the doctor's paper. We see a great many cases of pulmonary tuberculosis at the clinic, and now and then they have involvement of the throat. We seem, however, to get bad results, and in my hands these cases generally go to an early grave. I should like to know just what percentage of these cases occur in the throat primarily.

Dr. Kincheloe: Every general practitioner sees a certain number of these cases, and they always give him trouble. Rarely do we get good results, as they generally get steadily worse and they are always disheartening.

Dr. Coleman: I am glad to hear the doctor's paper, as he has had considerable experience. The thought, however, that has occurred to me is that I have seen very few throat complications in pulmonary tuberculosis.

Dr. Koontz: I have nothing of very great importance to say, as I am not so familiar with these throat cases. I was surprised to hear recently that in cases of tonsil enlargement about one in eight is tubercular. This condition of tonsilar enlargement is more common in children than in adults, as older

persons cough up and clear their throats of the infectious material. The route of infection seems to extend in certain of these cases to the glands of the neck. I, personally, am opposed to the removal of these glands unless they are the primary seat of the disease, and should they become very much enlarged and show evidences of suppuration they should be treated as simple abscesses, and be opened and drained, making no attempt to extirpate the glands. I believe it is often very difficult to differentiate between chronic inflammation of tonsil and tuberculosis of tonsil.

Dr. Asman : I am interested in Dr. Robertson's paper, and was particularly impressed regarding touching of the throat with swabs and powerful antiseptics. While I treat no cases of tubercular throats, the analogy between the mucous membranes of the throat and of the rectum is such that my few remarks may not be inappropriate. It is by no means uncommon to run across tubercular ulceration of the rectum, and it was formerly my custom after cleansing the bowel thoroughly to insert a rectal speculum and swab the ulceration. Of late, however, I have used more particularly some antiseptic fluid, and supplied it by means of a spray or nebulizer, which has given me much better results than the use of the swab.

Dr. Hoffman : I would simply like to ask if the treatment of swabbing the ulceration with lactic acid is not overdone ?

Dr. E. S. Allen : I agree with Dr. Robertson as to freeing the air passages of obstructions, but it seems to me that it is rather risky to do any extensive operation for the removal of adenoids or polypi in this locality and under such circumstances, as it would invite infection of that portion of the denuded mucous membranes.

Dr. Dunning Wilson : In contradiction to the remarks of several of the members I feel that we often are repaid by close attention to the proper care of the throat in these cases, and though, of course, the best results are obtaind in the early stages of the disease, a great deal of comfort can also be given to the advanced cases. I recall to my mind one case of a man, a carpenter, who had been advised by a well known specialist of this city to seek another climate, though no intimation was given him as to the exact cause of his throat trouble. After going away to Colorado and staying for nearly two months without any amelioration of the pain in his throat, he returned, and somehow or other drifted into my office. Examination of the throat showed extensive congestion and swelling of the pillars of the fauces, uvula and pharynx, with considerable of the boggyness referred to by Dr. Robertson. There was great pain on swallowing, which was sometimes so intense as to interfere with his rest. Sputum examination revealed the presence of tubercular bacilli, and the man was told just what was the cause of his condition, and advised to seek a dryer climate. He demurred, however, and though I told him that I wouldn't promise him anything at all if he was willing to give the time and money I would be glad to do all that I could. That was a year

and a half ago, and the man steadily improved under treatment, both constitutional and local, and it is now some four months since I have seen him, but I heard through his brother the other day that he never has any more pain, and is able to do a good day's work without any inconvenience.

Dr. Barnett: I have had several cases of tuberculosis with involvement of the throat. We should advise them all to keep their mouth clean, and to spray their throat and nose with cleansing fluids. I think one of the great causes of these throat conditions is the fact that most of these people live in overheated dry rooms with practically no ventilation, and never seem to realize the necessity of breathing fresh, cool air, and it is no wonder they have trouble.

Dr. Robertson (closing): As to the primary cases, I do not believe that any tubercular laryngitis was primary. As to the cures, I did not mean to include the advanced cases in my treatment, only referring to the early ones. I believe that application to the ulceration does more harm than good, and I do not think that lactic acid is of greater use than any other medicine, though it sometimes seems to do good. The percentage of cases of purely tubercular laryngitis is given as about 13.

PROCEEDINGS OF THE LOUISVILLE MEDICAL AND SURGICAL SOCIETY, DECEMBER 19, 1904.

Dr. J. R. Wathen: This specimen I present this evening is a case of carcinoma of the penis, which on last Saturday morning I amputated. The man was sent to me from Owensboro, Ky. He is about fifty-five years of age. This growth began just behind the glans about a year and a half ago and has steadily increased in size; a great deal of hemorrhage has occurred; no history of any specific trouble. When he presented himself for treatment I found the condition as you see it in the specimen.

This operation was done last Saturday morning. I removed this penis as far back as I could under the circumstances by the flap operation. In regard to the technique I simply ligated all the bleeding points and sutured the tunica albuginea over the corpora cavernosa, and dissected the urethra out from the corpus spongiosum and brought it through this flap, using cat gut throughout the operation and putting in the bladder a retaining catheter.

The urine is coming away nicely; there is no temperature, and apparently no swelling at all. That seems to be unusual for this condition. I have performed two of these operations, and assisted in two more, and there was a great deal of edema in these. In this case there is no edema at all. You can see the glass rod running through the uretha in the specimen presented.

Dr. Abell: No involvement of the glans at all?

Dr. Wathen: None at all.

Dr. Abell: Did the growth occur on the glans or the prepuce?

Dr. Wathen: Just behind the glands on the prepuce.

Dr. G. B, Jenkins: Through the courtesy of Dr. Wathen I saw the case, and the appearance was very confusing as to what it really was. I would like to ask the doctor if he made a microscopical examination of the specimen after removal; would like to hear from that part of it.

Dr. Abell: The only question of interest for discussion, I should think, is the one that comes when carcinoma appears in other portions of the body. as to the advisability of doing a complete or incomplete operation. Dr. Wathen has done an incomplete operation, and has left a stump of the penis an inch long in this case; experience has demonstrated that this is oftentimes of sufficient length to permit intercourse being carried out satisfactorily.

Some take the ground that in carcinoma of the penis the entire penis should be removed, the roots dissected from the rami of the pubes, and the urethra carried out below in the perineum.

The statistics of such cases show that in epithelioma occurring on the internal layer of the prepuce or on the mucous membrane covering the glands the growth is slow, and partial operation or amputation of the penis well back allows these cases to go for years, and oftentimes effects a complete cure. It is advisable in these cases that an incomplete operation should be done when possible on account of the sexual function.

Dr. Wathen. I have little to add, as Dr. Abell has so well brought out the point of the complete and the incomplete operations. I think if he had seen this case he would have thought that the best operation for the case was the incomplete one.

The complete operation is an operation that is always exceedingly difficult If you remember the scrotum is divided, and each testicle pulled out to one side, and then the urethra followed down to the prostate, and in fact the whole urethra and the corpus spongiosum and the corpora cavernosa dissected out. That is an unsually hard operation, one of the most difficult in surgery, and as this growth was so far anterior and the organ fairly good size, I decided to leave this one inch stump, hoping in that way to give the man relief.

As regards the complete operation there is another point that I have thought of; if it returns it is not apt to return in the line of the urethra, but in the inguinal region. and if we go beyond removing the cancerous tissue, the inguinal glands should be removed rather than follow the urethra up.

Dr. Guest: No phlegmasia dolens?

Dr. Wathen: No.

Dr. Moren: I am glad of this opportunity to report two cases that I saw last week. On last Wednesday I was to see two cases of paralysis in the same family. I found a little girl two years old who was apparently paralyzed in one arm, and a little girl of four years who had a complete, typical hemiplegia. Saturday night the little girl two years of age started in with vomiting and purging, and had a convulsion; the next morning she had a temperature of 102 or 103 degrees, and a distinct loss of motion of the right arm. The

doctor gave a dose of oil and some other medication at the time. That was only on Sunday morning, and that afternoon the second child developed a convulsion with paralysis of the left side. The four year old child had a typical picture of a cerebral hemorrhage, or I judge it to be hemorrhage. She has a complete hemiglegia, the whole left side of the face and the left arm and leg are involved; the pupils are dilated equally and react to light; rapid pulse and tongue protruding to the left side; no deviation of the eyes. She has had trouble in swallowing and a great deal of trouble in speaking.

The history of the two children is that they had scarlet fever in September and made a nice recovery. The children had been complaining of dumb chills a week previous to the onset of the paralysis; the doctor was called, and he prescribed quinine, and had practically discharged them. There is no rachitic or tubercular history; no syphilitic or alcoholic history. The parents were found in good physical condition.

Now, what have I in the second case? Child two years of age, had a temperature of 104 degrees; gave a dose of castor oil, and the temperature went down. The mother says that the temperature goes down in the morning and up in the afternoon. The reflexes are not distinctly increased; there have never been any evidences of coma, nothing to lead me to suspect that I have a case of meningitis. There is no stiffness of the neck and no discoloration of the skin, but a decided hyperesthesia.

Another point: this little girl two years old is still nursing the breast. The question comes in my mind whether the mother's milk is changed by reason of the trouble she had been having on account of the two sick children in the house, so that is no longer the proper nourishment for the child. The little one was doing nicely until Sunday, when the temperature went up to 104 degrees. She was given a dose of oil, and the mother says the stools were very offensive. The abdomen is distended with gas rather than retracted.

I saw a case week before last almost identical to this little child. There were three doctors in consultation, and we finally came to the conclusion that it was a gastro intestinal disorder that gave rise to the convulsion. The patient had a weak right arm that suggested anterior polio, but in a few days that disappeared and left no paralysis.

This trouble, I think, from the history is of gastro-intestinal origin.

Dr. Pope: I confess that the symptoms detailed are rather confusing, and make one doubtful as to the diagnosis. If I understand clearly, the smaller child has a single arm affected. In regard to the smaller child I should rather consider that we have to deal with a mild case of anterior horn trouble. It seems to me that a general involvement of the nervous system was present, with localized action on the motor neurons in the cord.

In the second case, if the family history presented any tubercular trouble, I would be inclined to believe that there might be a tubercular condition here. I saw a case of that character, and it puzzled me for nearly

two months; it was finally shown to be a case of solitary tubercle, although I had originally made a diagnose of hemorrhage in the internal capsule. In children it is rather a rare thing to find a hemorrhage in the internal capsule or a basilar hemorrhage of any kind. Here, as the family history presents no evidences of tubercular trouble, I am inclined to believe that we have to deal with possibly some embolic or thrombotic condition. Of course the history of a rather slow onset of a paralysis would militate some against the question of a diagnosis of hemorrhage, and we know that in these conditions following post febrile disorders and the exanthemata we are occasionally liable to have thrombotic conditions in the blood vessels, and taking into consideration the onset of the paralysis, I would suggest that we have to deal here with a thrombotic condition. This is more or less a surmise as to the disease, owing to the short clinical history received, and it may be remarked that it is no easy matter for the best diagnostician to interpret these conditions in children. Just at this particular age children are unstable, especially in the motor portions of the nervous system, which is developing very rapidly, and for that reason we find many puzzling symptoms along this particular line.

Dr. Speidel: I did not hear the entire presentation of the case. I wish to speak to an error of nutrition, due to a child of two years nursing the breast. Under no circumstances should the child be allowed to nurse at that age. The mother's milk is so impaired after grief or any unusual emotion and also by sexual indulgence that we find it filled with colostrum corpuscles which cause gastro-intestinal catarrh. There may be a combination of all these in this condition. I think after two year's nursing the mother does not furnish sufficient nutrition for the child; then the anxiety of waiting on these children, and possibly sexual indulgence, would impair the milk so that it would be unfit for the child.

Dr. W. A. Jenkins: Was there any respiratory trouble in either case?

Dr. Moren: Only rapid breathing in the little child.

Dr. S. B. Hays: I would like to ask the doctor whether he mentioned anything about the condition of the child's bowels? I would like to know whether there was any indican in the urine or any other end product that the child was not properly eliminating.

Dr. Moren: Both children had good purgation.

Dr. G. B. Jenkins: As I understood the report of the case the nursing infant was first affected, consequently its illness could not have been produced by changes in the mother's milk due to grief. It is a well known fact that the mother's milk is not sufficient for the infant after nine months, and if the infant is nursed after that time changes have taken place in the milk which renders it unfit for the nourishment of the infant.

As to the second case, it seems to simulate meningitis, though the absence of any tubercular conditions in the parents would indicate that we

could exclude tubercular meningitis from that standpoint, but we can get tubercular infection from other sources than the parents, as association with tubercular patients, or living in houses where tubercular patients have resided, etc.

I would push elimination and antiseptics to the limit, going on the supposition that they are both toxic in origin.

Dr. Moren (closing): I was afraid that the little fellow was developing typhoid fever. I had heard a doctor talking the other day about a case of typhoid fever in infancy, and wondered if this could be a case. I do not know what is the matter with the little child unless the trouble is gastro intestinal. Both children are poorly nourished, and have been allowed to drink coffee for some time, and the question in regard to the mother's milk is whether that would have any influence in bringing on this second attack with the elevation of temperature. The little child will not take any nourishment, and that is the only way that it can be nourished. What can we do? The child is fretting and crying, and will only rest contented with the mother's milk, and we thought it best for it to nurse for a day or two until it showed some signs of being better or being able to take better nourishment.

In the second case I am of the opinion that it is a hemorrhage in the lateral ventricle from my experience in a case recently which you all doubtless noticed in the papers. That man was paralyzed on the left side, and his right ventricle was filled with blood. This little child has some of the symptoms that the man complained of. In the patient I saw a short time ago there was no pupillary symptoms at all; there was a distinct paralysis of the left side, and he had a great deal of trouble in swallowing and spoke only occasionally, and so I am inclined to believe that this little child has a hemorrhage into the right ventricle, and scarlet fever may have been the predisposing cause; you might say that this is a sequela of scarlet fever.

Dr. Zimmerman: Any cardiac lesion at all following the scarlet fever?

Dr. Moren: None that we could detect.

Dr. Sam. P. Meyr presented paper "Follicular Tonsillitis," under original communications, page 76.

DISCUSSION OF DR. MEYER'S PAPER.

Dr. Dunning S. Wilson: The only thing that occurs to my mind this evening in connection with follicular tonsillitis is the frequency with which we see it, and the number of times that we are apt to confound it with diphtheria. I remember an experience in a case recently where the patient had a typical follicular tonsillitis with the exudate dripping into the crypts, which rapidly extended, and in the course of twenty-four hours' time a membrane seemed to be forming over the tonsil, and later it took in the uvula and the anterior pillars of the fauces. I became suspicious of diphtheria, and sent for a trained nurse and isolated the patient. I sent a specimen for bacteriological examination to Dr. Robins. In the meantime, not taking any

chances. I gave two thousand units of antitoxin, and repeated the dose in the next six hours with no result whatever on the membrane. Clinically, it seemed to be a case of typical diphtheria. Dr. Robins reported to me the following morning that the culture had shown an excellent growth of streptococci, and we did not have any diphtheria at all. I am glad to say that my fears apparently were groundless.

I mentioned this one day to a physician who is a friend of mine, and he said he was quite sure that it was a case of diphtheria. It seems rather a curious position to take in that matter. If I had made a diagnosis from the clinical symptoms I would have been careless in differentiating the disease. The only true way to get at the diagnosis is by a bacteriological examination. I did not see why the family should be inconvenienced by false diagnosis, as in this instance it was a dressmaking establishment, and a number of women would have been thrown out of work if a diagnosis of diphtheria had been made and the house placarded.

I believe that in every case that is suspicious of diphtheria we should have a bacteriological examination before it is pronounced diphtheria.

Dr. Taylor: The subject of tonsillitis was extensively discussed at the last meeting. In handling these cases the general practitioner and specialist treat them from clinical symptoms Referring to the case that Dr. Wilson mentioned, a case of true diphtheria would not have shown the Klebs-Loeffler bacillus unless the examination was made early. In children when the microscopical examination is made early we usually find the Klebs-Loeffler bacillus, and even when diphtheria is present we have mixed infection, the staphylococci and the streptococci being present. Microscopic examinations made late will, as a rule, not show the Klebs-Loeffler bacillus.

In the follicular tonsillitis which the essayist mentioned to-night the cause is usually the stapholococcus or streptococcus. If we handle the cases clinically we find little difference in the appearance of the membrane in diphtheria and many cases of follicular and membranous tonsillitis; however, the membrane due to the Klebs-Loeffler bacillus can not be easily removed. Frequently in tonsillitis we find the exudate only in the crypts of the tonsils, and not over the soft palate, and not over the surface of the tonsil. When due to the Klebs-Loeffler bacillus we find the membrane on the soft palate, the uvula, the pillars of the fauces and the tonsils. I have just gotten over an attack. I found the membrane covering the tonsil on Friday, and blew it off every three hours during the day, and over night the infection was so great that I was unable to get it off on Saturday.

We find that this disease occurs with greater frequency at this season of the year, winter, than at any other. The infection occurs through the atmosphere and where persons are crowded together. Tonsillitis is not limited in young adults; we find it most frequently in children, but it occurs at any age.

That rheumatic subjects are more subject to follicular tonsillitis than those who do not have rheumatism I do not believe to be a fact. Rheumatic subjects are subject to parenchymatous tonsillitis more often than follicular tonsillitis.

The onset is sudden; the pain from irritation in the tonsil is frequently referred to the ear. The exudate on the tonsil, when not due to the Klebs-Loeffler bacillus, may be blown or brushed away. The only prevention of follicular tonsillitis that could be used for practical purposes is the removal of the tonsil. The person most frequently affected is the person who has enlarged tonsils, and the person who is exposed to infected atmosphere. A person with the entire tonsil removed would not be subject of frequent attacks as the patient with enlarged tonsils.

Local treatment should be used for local troubles. The anti-rheumatic agents, the bromides and all other depressants are administered simply to relieve the suffering of the patient without relieving the patient's condition or the cause of the trouble. In the earlier stages of the disease, if the follicles are blown out, the infection is entirely removed. If we remove the organisms in the tonsil, we can often abort the attack.

We frequently find the infection only in one tonsil, and if the exudate and debris is blown out of the crypts of the tonsil, and it is washed, preferably with a bichloride of mercury solution, we can prevent infection on the other side. It is possible to remove all of the debris from the follicles in the earlier stages and abort the usual run of symptoms.

It is a self-limited trouble, and usually lasts from five to seven days, and any treatment after the infection is thoroughly started is of small benefit except palliative. The best palliative is the use of the nitrate of silver solution, twenty to eighty grains to the ounce. Its effect is astringent and sedative. We may use any of the ordinary germicides as cleansing agents. Topical applications of the nitrate of silver solution will give the patient relief where there is a tendency to frequent swallowing. Hot fomentations externally and hot saline gargles, saline purgatives should be freely administered.

Dr. Pope: I am not a throat specialist, but those of us who own private sanatoria are called upon to do a little general practice, and we know that those afflicted with follicular tonsillitis or any inflammatory trouble of the throat complain bitterly from the pain, and to the treatment before outlined I want to add a little compress or bandage, the technique of which I have partly originated, which will go far toward getting rid of a great deal of the suffering from which the patient complains. Take two pieces of linen—cotton won't do—of sufficient length to make a compress of three or four thicknesses and to cover the area, and dip them in water at a temperature of forty or fifty degrees; place the first compress under the chin and throat and carry it up over the jaws; split it at the proper place, so that the ears will slip through;

the other compress is then put around the throat circularly, and finally a flannel bandage is carried around, first circularly and then over the head, so as to hold it in place. If this technique is followed every portion of the skin surrounding the throat and the involved vascular and lymphatic area is covered. There is a dilatation of the surface vessels of the vascular area just as in the application of a full body; the same principle is applied to the throat. I will say that in two or three cases that have been operated on in sanitoria by those who do this special line of work, and where the tonsils have been removed, that healing took very rapidly under the continued application of the cold compress. The applications are removed and reapplied about every six hours.

Lately, in addition to the external application of the throat compress, I have been using high frequency currents applied directly to the tonsil, in the throat and externally to the skin surface, and I can so far report that the success has been gratifying, for as we know the high frequency current is one of the most potent germicides that we can find, and in connection with the other local measures that have been mentioned adds to the physician's armentarium in handling these conditions.

Dr. Coleman: As some speaker has said, the general practitioner treats these cases from the clinical standpoint; I agree with him there. Two points occur to me: First, the vital importance of distinguishing between follicular tonsillitis and diphtheria. From a practical standpoint this occurs to me as of the greatest importance. This is generally in my mind at any rate. In follicular tonsillitis, as a rule, these little masses of exudate can be seen protruding from the crypts of the tonsil; they can be seen plainly in most cases. In some cases it can not be seen. It can not be distinguished when there is so much exudate that it covers the entire tonsil, and we can not always be absolutely certain of the diagnosis. Where the diagnosis can not be made out I think the proper treatment is to make a bacteriological examination, using the antitoxin immediately as suggested by Dr. Wilson. I think that is good practice. It is a vitally important point to distinguish between the two diseases, and this can be done usually, but not always, in my experience.

As to the treatment, I think it is always wise to clean out these crypts, and I have found that the disease does not last as long as ten days if properly treated. I think if the practitioner sees these cases early these crypts can be cleaned out with the peroxide of hydrogen. If this is done thoroughly and repeatedly for the first twenty-four or thirty-six hours the disease, it seems to me, would be cut short.

An application which I have found to be good in this disease is a solution of the bichloride of mercury, two grains to four ounces of water; it will give comfort and relieve in twenty-four hours.

Dr. Pfingst: I think that Dr. Myer has given us an interesting paper.

He has taken up a subject that ought to be of great interest to every one of us. I regret that he did not say more about relieving the pain, and how he gets these patients comfortable. It has not been my experience that we find pain in this condition frequent; we find it principally in children, and they do not have much pain. They complain more of the general symptoms the result of the fever, such as the pain in the limbs, headache, etc. It is not my experience that they suffer much pain in the throat. In adults the question arises how to get these patients comfortable.

This method of treatment mentioned by Dr. Pope has been used many years in Germany, and was introduced by Prisnitz, and used in the manner described by Dr. Pope. I have used it, and find that it usually gets the patients more comfortable. I think the results are due to the heat; you put on the cold and it is not long before it is hot. I apply the linen rung out in cold water and then put the flannel on the outside, and you get a poultice effect. Usually we can make the patients comfortable in that way.

As to blowing out the crypts, I differ with some of the speakers. I believe that when the crypts can be blown out that it should never be neglected, but we find cases where we can not blow out the crypts; you see cases where the whole tonsil is speckled, but the deposits seem to be covered over with some delicate membrane, probably with epithelium, so that the exudate can not blow out with fifteen or twenty pounds pressure.

There is another point that I want to speak of. Dr. Myers made the statement that there is no difference between follicular tonsillitis and chronic superficial tonsillitis. To my mind there is a vast difference, not only pathologically, but clinically. We do not have all the symptoms that we have in follicular tonsillitis. In follicular tonsillitis we generally have the crypts filled up, and then finally becoming confluent; we do not see that in superficial tonsillitis.

I will take just a moment to say something about this term, follicular tonsillitis. It strikes me that it is a bad name for this condition. When we speak of a follicle of the tonsil we mean the nodes of adenoid tissue around the crypts, add not the crypts. Some authors speak of it as a croupous tonsillitis.

There is one thing that I would like to say regarding the diagnosis of diphtheria from a microscopical examination. I have tried it myself, and in the first place it takes some time even if the diagnosis is made; in the second place, we can not make the diagnosis every time. You get cases, as Dr Taylor has pointed out, with mixed infection; the staphylococcus will outgrow the diphtheria bacillus, and you will get a beautiful growth of the staphylococcus instead of the diphtheria bacillus. While the microscope and culture methods are corroborative aids to the diagnosis, I would not rely upon the microscope. I believe that we can find the diphtheria bacillus, and the patient not have diphtheria. We can clean out the crypts and

often find the diphtheria bacillus. I believe if we can see the cases early when the exudate is limited to the crypt and has not yet become confluent we can be certain that we have to deal with a tonsillitis, but we do not generally see them at that stage, and that is where the trouble comes in.

A fact that has not been brought out is that in tonsillitis the individual feels worse than in diphtheria; it is so in children. In diphtheria the children often play about on the floor, and in tonsillitis they have a high temperature and are sick and ready for the bed.

Dr. Hibbitt: I am like Dr. Coleman; I disagree with Dr. Taylor on the point of follicullar tonsillitis being a self-limited disease. My experience some two years ago led me to believe otherwise. I had them under my care for ten days until I began to use another line of treatment. We can clean the tonsils with peroxide of hydrogen, and cleanse the throat with Loeffler's solution. I know it will cut short the attack so that it will not last more than two or three days.

I would like to ask Dr. Myer why he uses a curved bistoury in lancing the tonsil? I believe that a straight knife is better than a curved bistoury would be.

Dr. Morris: I just want to thank Dr. Myer for his paper. I think he has covered the ground well.

Some of you have spoken of washing out these crypts with an atomizer. I have never been able to get at the bottom of them with it. I use a lachrymal syringe to wash them out, attaching a silver tube to this and put it into the follicle and wash it out in that way. Peroxide of hydrogen will clean off the surface only.

As to the relief of pain, I have one objection to the nitrate of silver solution; in repeated attacks it produces a sclerosis of this tonsillar tissue. I have gotten better effects from the use of guaiacol. If I can get these cases in the early stages I much prefer guaiacol. Speaking of the relief of pain, the patient may be able to get rid of a great deal of it by taking hold of the lobe of the ear and pulling downward when he swallows. To relieve the pain in these conditions and after tonsillotomies I tell the patients to use cracked ice with ice cream and sherbert as a food, and its seems to do good.

I agree with Dr. Hibbitt in regard to the use of the curved bistoury. I invariably use a straight knife, and am then pretty sure where the point of it is. If you remember the anatomy of the soft palate you will see that if we make a perpendicular incision the edges will collapse, owing to the direction of the fibres of the levator and tensor palati. I always use a straight knife and cut horizontally with it.

Dr. Myer (closing): I wish to thank the members of the Society for their full discussion of the paper. The reason I used the curved bistoury is because I have gotten in the habit of using it. I wrap down near to the point so that I can use it with less danger.

LOUISVILLE CLINICAL SOCIETY, DECEMBER 20, 1904.

Dr Samuel: I am sorry that I have not the X ray plates of this case with me. The man who developed them for me did not get them ready. The plate of that arm shows typical bowing of the arm from arrest of development of the ulna. The radiograph shows the conformation of the ulna; there seems to be no head of the ulna at all. I think it is due to arrested growth of the ulna and the continued growth of the nadius. The bowing is shown very beautifully, and I hope to have the X-ray plates here to show you later this condition.

When we examine the legs we find a development of bone at the end of the femur of both legs, very marked at the inner side; the adductor tubercle is very prominent, and at that point there seems to be developed an osteophite Such a case has never come under my observation; I have seen it in the forearm, but not quite so marked as that. I can see how fractures of the elbow joint could have occurred formerly and not been recognized: now we recognize fractures at that point, and the treatment of these conditions has been brought out by Scudder in the last few years in his excellent text book, which is used in nearly every college in the United States.

About two months ago, just after I saw this man, I saw a man on Second street who had locomotor ataxia, and he fractured his thigh several years ago in the lower third, and I assisted Dr. Holloway at the time in treating the fracture, and saw him a number of times, and helped to change the dressings, and in the last year the man has fallen into my hands for treatment of an enlarged prostate and retention of urine. He asked me if I remembered the fracture and exhibited his leg, and I found that the lower two-thirds of the quadriceps extensor was an osacher I regard it as a case where the osteoblasts got out into the muscles and there developed bone. The muscles, you know, frequently become ossified from continued irritation.

Dr. Weidner: I am hardly in a position to say much about this case. It is very interesting. It may be a case of "fragilitas ossium" due to osteoporosis. We do not know the pathology of the various conditions. I do not think it is due to an absence of bone formation in early years, but rather to subsequent nutritive changes in the bones. In the case of the tibia it looks like some osteophitic process, and I do not know the source of origin. It looks like some bony development due to injury which might have developed because of some favorable condition. The left femur looks like there has been a fracture.

I would like to ask you if you consider this man at the present time subject to repeated injuries?

Dr. Samuel: I reported the case to get the opinion of the Society. I showed it simply as an interesting case, rather rare. I recognize if he had a fracture of the femur that nature has thrown out a great deal of material,

and the process could be accounted for in that way. The bowing of the radius is, of course, interesting to me. I take it that the bowing of the radius is due to the arrest of development of the ulna, though I am not sure.

Dr. Willmoth: I have nothing to say further than it is an interesting process in regard to the formation of the osteophites or new bone formation. The formation of bone here calls to my mind a case that we had at the Kentucky School Hospital last year, in which Dr. Samuel will remember seeing a man about fifty years old who presented a large knee that looked somethiug like a Charcot knee, but upon examination we found three distinct bone formations as large as the fist in the muscles that could be moved about. That bone had been ten or eleven years in forming there, possibly longer.

Dr. Samuel: It was exactly like a Charcot joint, except that it did not occur in a tabetic patient.

Dr. Flexner: Did you examine the urine for albumoses ?

Dr. Samuel: I operated on him foi a fistulous opening of the buttocks, and an analysis showed his urine normal. The analysis was made by the interne at St. Anthony's Hospital. It is the only analysis that has been made.

Dr. Flexner: A lead test has been introduced for albumoses in the urine. They are found in the urine in osteomata and accompanying conditions of the bone.

Dr. Weidner: Are they not more often found in sarcomatous changes in bone ?

Dr. Flexner: Yes.

Dr. Weidner: I hardly think this is a case of that kind, because in those cases we have progressive changes and multiple tumors distributed in the bone marrow, and accompanied by anemia and the cachexia of malignant trouble

Dr. Griffith: There seems to be a general deformity all around. It is a very interesting case.

Dr. Abell: I am most deeply interested in the case. From a superficial examination it strikes me that it possibly is, I do not know the pathology, a case of arrested development of bone. It does not seem to be confined to the right ulna. The left is the same when the hand is adducted completely. The right humerus is one inch shorter than the left humerus. It would seem that the condition depended upon some lack of lime salts in the development of the bone. I hardly think that a fracture would be the cause of the condition of the left arm.

Dr. Irwin: Gentlemen, this case is exceedingly interesting from the fact that we do not often see an irregular deposition of bony fiber like this. This is a case that would be of great interest if we could go back to the time when this child was born, trace his family history, and go back into heredity. I think we must regard it as due to an irregular distribution of lime salts. It

is possible that in early years the development of bone did not take place.

It is an interesting case. I have never seen anything like it.

Dr. Samuel: I have nothing to say in closing, except as I stated in the beginning, that I presented the case for the expression of the opinion of the Society. I have not gone into detail in regard to the condition of the bone. Dr. Weidner and Dr. Flexner have suggested points that I will study up.

Dr. J. B. Richardson, Sr.: I remember seeing a case where there was an antithesis to this case a complete absorption of the humerus, from the elbow to the shoulder. By means of an external splint the arm could be used very well. There was a lack of deposit of bony material.

Dr. Coomes: Was this fellow rachitic when a baby?

Dr. Samuel: I do not know. I have not gotten his history.

Dr. Irwin: About four weeks ago I was called to see a child about eleven years of age. The child was suffering from a violent attack of inflammatory rheumatism, mainly affecting both knees, one ankle and one elbow. The parts had become swollen to nearly double their normal size, the knees not so swollen as the ankle and elbow. I admintstered the usual remedies to this child. It seemed to be a well nourished child up to this time.

The child came from the interior of the State, and had been treated there for four or five weeks; it was brought here because the treatment there had done no good.

I administered the salicylates, and they had no effect whatever. I remember when salicylic acid was first used as a remedy for rheumatism. We formed a compound of salicylic acid and the bicarbonnate of soda. I had seen some wonderful effects from such a compound, and I prescribed salicylic acid with bicarbonnate of soda. After two days I found a wonderful effect; I could get no effect from the salicylate of soda previously.

On the second day after giving the mixture the mother informed me that her little daughter was passing pieces of flesh from the bowel. She brought me the segment of a tapeworm that had been passed. I continued the administration of this mixture three days longer, and the swelling of the knees and ankles almost disappeared. By the time the rheumatism was relieved she had passed forty-five feet of tapeworm. We afterwards found the head. The worm was undoubtedly killed by this drug. I gave the child six grains of salicylic acid with bicarbonnate of soda fifteen grains every three hours, well diluted. I mention this as a clinical accident. The worm is gone and the child is well. The salicylic acid relieved it.

Dr. Weidner: What variety of worm was it?

Dr. Irwin: That variety derived from eating pork.

Dr. J. R. Wathen: The specimen I present this evening is a carcinoma of the penis. I removed it last Saturday from a colored man about fifty years of age. Previous to this about a year and a half he noticed a small warty growth appear right behind the glands, and it increased in size until it

reached the size you see in the specimen. I amputated the organ, making a long anterior flap and a short posterior one, dissecting up these skin flaps, cutting through the corpora cavernosa, dissecting out the urethra and suturing the tunica albuginea over the corpora, and in this way closed up the large spaces; I stopped all the hemorrhage, and then sutured the skin flaps to the urethra. I then placed in the bladder a retaining catheter, and to-day he is passing urine quite freely without the catheter.

I might add that he had no enlarged inguinal glands, and has left now about one inch of penis. There is no syphilitic history in this case; the man is from the country districts near Owensboro, and I think we can eliminate syphilis, although no microscopical examination of the growth has been made.

Paper presented by Dr. John B. Richardson, "Thrombosis," under original communications page 59.

Dr. Weidner: I have most heartily enjoyed this paper. I have known Dr. Richardson for a great many years, and had the honor of having him for my teacher for one term. I do not think we could have had a finer demonstration of the pathology of this condition than we have heard to-night. I congratulate the doctor upon getting over this condition without having any cerebral, pulmonary or other emboli.

The cause in his case is obscure to me. Injuries of the vessels during operation might give rise to emboli or thrombi in these vessels, which latter might extend to the larger venous thrombo trunks.

Dr. Coomes: Was there any cut in the gut?

Dr. Richardson: There was no opening made in the bowel, but there was a finger-like projection which constricted the bowel at the point where I first felt the pain. Possibly this had extended over, and by contracting had closed the bowel completely. The other theory is that some pressure might have been exerted on the larger veins, possibly on the internal iliac, at the time of the operation.

Dr. Weidner: This developed on the twenty-third day after the operation, rather late for that to occur. The symptoms began insidiously, and I hardly think there was any obstructions in the large veins above, because if there had been any obstruction above we would have had the edema earlier than it occurred in his case; still there is a possibility that there might have been a slight thrombus that increased in size, and we had at first only peripheral symptoms.

He mentions no elevation of temperature, still he uses the term "septic thrombosis. I hardly think he could have had much infection, or he would have had fever. I think all septic thrombi are accompanied by elevation of temperature. Pain and edema were the most marked symptoms, and he had no fever. I do not think that the doctor had any infection.

In the repair of the circulation the doctor has not mentioned the possibility of canalization of the thrombus through the center or along the walls of

the vein in addition to the collateral circulation of the venous system. The collateral circulation is easily established in the peripheral veins, and this must have occurred in the doctor's case.

Dr. Ed. Grant: I came here to-night to hear a surgical paper, and had not thought of discussing it. I was greatly interested in the reading of this paper. It is a valuable contribution to medical literature, and I congratulate the doctor on its production.

I think it is likely that the cause of the thrombus in his case was the impaired condition of his blood, due to the condition he was in after the operation. In my own experience in the practice of medicine, not doing surgical work, I have seen but few cases, all in typhoid fever, and all were confined to the external saphenous vein just as his was, and in time yielded to treatment such has the doctor as suggested.

Dr. Flexner: I want to say that I thoroughly enjoyed the paper, and during the reading of it was reminded of some work, Clark, of Philadelphia, has done in regard to this subject of thrombus following laparotomy. I had no chance of referring to the paper after getting the card, but the impression was produced in my mind that he directs special attention to the way in which the retractor is used in the abdominal wall; he has proved that rough handling of the abdominal wall by the retractors can produce severe injury to the peritoneum and abdominal organs.

So far as the paper goes, it appears to me that the origin of thrombi is attracting considerable attention in recent years. We know that nature protects us against infection by the development in the blood of substances that produce agglutinations of the bacilli in the various hollow organs and even in the blood, and I think it conceivable, as we all know the migratory habits of the colon bacillus where there is any lesion of the bowel, that possibly some traumatism in the edges of the wound, owing to the use of the retractors, may have caused the production of agglutinations in the blood, and led to the formation of a thrombus in the smaller vessels, which Dr. Richardson suffered from.

Dr. Satterwhite: I was present at the operation which Dr. Cartledge and Dr. Vance performed. The point that constricted the bowel, of course, was relieved, not with the knife, but with the hand. Whether that has anything to do with the thrombus I am unable to say.

I remember I had a case in which both sides of the neck and the external jugular was dilated, then a swelling of the face and neck to quite a considerable extent. I could not tell whether the internal jugulars were distended or not, but the two externals were very much enlarged. This condition continued, and I suspected that there was some obstruction to the return of the blood, and it afterward developed into a thrombus of the superior vena cava. As soon as the collateral circulation was established through the thoracic and abdominal veins, the swelling then subsided, and the patient was soon in a normal condition.

Now, this patient was of a very nervous temperament. We know that the condition of the nervous system does not have any influence upon the constituents of the blood. Dr. Richardson exhibited more or less of the nervous disposition. The two cases in that respect has caused me to wonder or not whether that condition of things had any effect on the constituents of the blood and caused this disposition. Of course the longer a thrombus is in situ and not disturbed the more apt is organization to take place, and there is less probability of it being floated away, and the history of these cases is that it in time will be absorbed or organized so as to lessen the likelihood of it being detached.

The doctor made us all very uneasy at the time; I do not think that we exhibited to him our uneasiness, but we felt very anxious about him.

The pain that he described was very aggravating, and was at first an enigma to us; we could not see why he should have this pain in the calf of the leg and the swelling in the calf of the leg.

Dr. Weidner: Upon what was the diagnosis of thrombosis of the superior vena cava based?

Dr. Satterwhite: The diagnosis was based on the swelling of the jugular veins and the swelling of the neck. After the collateral circulation was established the swelling of the neck was relieved.

Dr. Griffiths: I do not know when I enjoyed a paper more than I have that of Dr. Richardson. Did you notice how he pointed out the diseased spot and showed the doctors just what to do? Did you notice the classical way in which he gave you these authorities just like a lawyer? It was one of the grandest papers I have ever read in my life. I came here expecting to hear a paper from my friend, Dr. Satterwhite, not knowing that he had gotten Dr. Richardson to write the paper. The paper is simply beautiful, and I hope it will be recorded in our monthly journal, and we can go over it and consult the authorities that he has quoted. I have never heard a case so beautifully described. He simply pointed out the affected spot to the doctors, and all they had to do was to cut in and find the diseased bowel.

It has been quite a pleasure to hear the doctor, and we have gained a great deal from the paper.

Dr. J. R. Wathen: I enjoyed the valuable paper of the essayist, and I have only one thing to add. I noticed recently a quotation from a prominent German surgeon, stating that in a large number of collected cases, thrombus had occurred most often where the surgeon used cat gut, that is, where absorbable ligatures had been used. It struck me as peculiar, and I thought that fact might be of interest in this case. I was trying to think in my own experience and my father's as far back as I can, and there are only a few cases of this kind that I can find. I recall that we seldom used cat gut in ordinary abdominal work, and only recently have begun to use cat gut in this cavity, but in all fibroid cases cat gut was used to whip over the peritoneum, and those

were the cases where it occurred, and it seemed to bear out what this surgeon had said.

I would like to know whether absorbable ligatures were used in this case.

Dr. Marshall: The subject of thrombus is a very obscure one. We have been taught that slowing of the circulation has a tendency to the formation of clots, and yet I remember some experiments made by Burdon Sanderson, where he ligated the vessel or obstructed the vessel, both the distal and proximal ends of a vein, and without injuring the vessel in any way, and kept it up for twenty-four or thirty-six hours without the formation of a clot, showing that simple slowing of the circulation or stopping the circulation is not sufficient for the formation of a clot. We find from experiment that as long as there is no change in the blood or no change in the internal coat of the vessel we will not have the formation of a clot.

Now, then, the question here is interesting. Could this band-like adhesion have existed for some time prior to this obstruction, and then after the operation there may have been some further obstruction from the tearing of these adhesions, causing some new obstruction to these vessels carrying blood from the lower extremity?

I am like Dr. Weidner; I do not think a man can have septic thrombus with no febrile element. It is certainly an interesting case.

Dr. Irwin: I wish to extend my thanks to the doctor for his very comprehensive paper. I think we might say the paper is didactic, it covers the field so well. The description of the case is so well illustrated that we can not help but feel that a new epoch has been reached in this disorder known as thrombosus. I have seen a number of cases.

Dr. Richardson really gave us the starting point as about the ankle. Now, it would seem to me that a constriction high up in the intestine would hardly affect the ankle. I thought at the time that if a thrombus occurred it would have occurred close to the seat of constriction in some small vessel, but as it first appeared about the ankle it seems to have been independent of anything done at the operation, unless, as Dr. Wathen says, cat gut could have found its way there.

I have seen cases follow rheumatism, pleurisy, pneumonia, typhoid fever, ulcerative endocarditis and suppuration of the internal ear. There are two conditions invariably present in these patients—one feeble heart or poor circulation; the other subnormal temperature.

Recently I saw such a case. The thrombus began in one leg and extended up to the body; the other leg soon became affected, and in the course of ten days paralysis of one side followed, showing that the trouble had extended to the brain. The patient had a mitral regurgitation of long standing.

Gentlemen, there are a great many things that could give rise to thrombus, but in the vast majority of cases I have found either disease of the valves of the heart or feebleness of the heart, and associated with this subnormal

temperature. We may have something more ; we may have some shock to the nervous system. So when we come to consider the importance of a case of this kind we must consider all the facts. In the case reported we have all the facts.

I do not think the constriction high up in the intestines was the cause of the trouble in this case. I give this as my opinion.

Dr. Samuel : I have enjoyed the paper, and in the main I can agree. Dr. Richardson did not, however, state the etiological factors that play the most important part in the formation of a thrombus, which I believe is always a perfect explanation of its cause primarily, which is as follows and depends first in persevering the integrity of the circulating fluid and its cells, which contain two (2) substances that must be set free before clotting occurs as an anti-mortem affair. Besides this, the cells which line the blood vessel's walls (endothelial) act as inhibitors of clotting. The things which excite clotting more frequently other than mechanical injury to blood vessels is the different infective agencies, and is an explanation of the propagation of many surgical infectious diseases. I believe that in Dr. Richardson's case mechanical injury was the factor possible in producing the thrombus.

Dr. Richardson (closing) : Gentlemen, I certainly feel gratified with the full discussion of this subject. Previous to my suffering from this trouble I had never paid much attention to the subject of thrombosis, although I had read for forty years medicine and surgery. To me this is an interesting subject, having suffered from thrombosis. I can recall lying in my bed trying to discover what could cause a thrombus in my case. I have led a very regular life, and I take a great deal of exercise. My heart was weak from the suffering that I had undergone. When I returned home I remember my son and the carriage driver had to assist me up the steps, and when I reached my room I had to lie down on the sofa from fatigue. I was very careful with myself ; I did exercise some on the same floor on which my bedroom was. My idea about thrombosis then was that it followed phlegmasia alba dolens only. I had never seen a case from any other cause.

My son, in looking over my paper, said some of my pathology was up to date and some was obsolete. I have given you here a resume of thrombus.

MULDRAUGH HILL MEDICAL SOCIETY.

The regular meeting of the Muldraugh Hill Medical Society took place at Elizabethtown, Ky., on December 8, 1904.

A large attendance of physicians was present from different parts of the State, and a full programme was gone over.

In the morning session many interesting cases were reported and discussed.

Dr. John Wathen reported a case of enlargement of the prostate and stone removed from a man seventy-four years old, who had been troubled for four

years with pain and retention of urine. Morphine had to be administered to give rest. The patient was operated on by doing the middle perineal incision after the method of Hugh Young, of Johns-Hopkins, where the incision is made down to the gland, and the gland hooked out after the method of removing the uterus in a hysterectomy. This patient was only in the hospital three weeks, and went home relieved. Had also operated on one other case by the same method, which did as well as this one.

This method has many advantages over the old method, in that the mortality is not near so high, and the operation is much easier done at the time.

Dr. McChord, in discussing Dr. Wathen's paper, said it was a new method that had been proven to be a success, and that plenty of old men needed the operation to relieve them of conditions that they were now suffering from, and that it could be done without much danger to life.

Dr. Bowen reported a case seen by him of a child that had been sick for four or five days with an ordinary sore throat, as the parents thought, but a diagnosis of diphtheria was made, and the child died in six hours after his first visit. He thought parents should be warned of the danger of allowing children to run with a sore throat and not seen by a doctor.

Dr. Reesor reported a number seen by him this fall during an epidemic at Stithton, Ky., where the case had been little thought of by the family until they were told that it was diphtheria. Several died as the result, he thought, of not being early enough to give the antitoxin a chance.

Dr. McChord thought that doctors did not use enough antitoxin ; that at least 4,000 units should be used, and followed by more in a few hours, if needed, and that in those cases where mixed infection was present that anti-streptococcocci serum should be used in conjunction with the other serum.

Dr. Cheatham said that he had used as much as 20,000 units in one case, giving 4,000 units every eight hours, and thought, as did Dr. McChord, that the doctors did not use enough.

Dr. Aud spoke of the need of fumigating the rooms of all sick patients with diphtheria and other contagious diseases for the benefit of the sick, and more especially the well ones that were in the house.

Dr. Ed. Smith said that in his judgment every member of the family should be given an immunizing dose of the antitoxin where diphtheria was present in a family.

Dr. Allen read a paper on "Bronchitis" that was very instructive and enjoyed by all present, and discussed by several as follows:

Dr Allen said that in acute bronchitis the trouble was not dangerous to life, but aggravating, especially after measles. The patient should be put to bed, and more importance should be attached to it to prevent them from getting in a serious condition.

Dr. Aud said that in using Dover's powders in bronchitis that there was

an art in giving them, that they should be used in full doses at first to relieve the acute symptoms, which were the same as in coryza. Put the patient to bed, and let him sweat. In the chronic form don't use too much medicine. Let the patient change climate. Ventilate the room, if infection be present. Use serum and the iodides, etc.

Dr. Ed. Smith thought that opium should be used very sparingly, and that in children it was contraindicated. Use calomel and other remedies that were not so dangerous.

Dr. Cheatham said that in his own person that in an acute attack of bronchitis that nothing worked so well us syrup of hydriodic acid.

Dr. Hibbitt's paper on "Ventral Suspension of the Uterus" was read, and enjoyed by all present.

Dr. McChord said the paper was timely, and that in his judgment too many sutures were placed in and too anteriorly, and that an Alexander operation should be done rarely.

Dr. John Wathen said, in discussion, that he only wished that he could be so enthusiastic as the essayist; that he thought that the sutures should be placed further behind, as it were, and should be of silkworm gut, and that in old women the uterus should be removed.

Dr. Willmoth said that he much prefered the method referred to by Dr. Wathen and the using of silkworm gut sutures, and thought that where the uterus still come down or give trouble that it should be removed, especially in old women.

Dr. Hibbitt said, in closing, that patients would thank you for doing conservative work on them, and that they would not return if the work was done properly.

Dr. Wathen's paper on "Diagnosis of Surgical Affections of the Bladder" was read and enjoyed by all.

The Society adjourned to meet in Louisville on Thursday, April 13, 1904.

LOUISVILLE NEUROLOGICAL SOCIETY.

The Louisville Neurological Society was organized in October, with the following men in the various offices:

Dr. Curran Pope, President.

Dr. John J. Moren, Vice President.

Dr. George B. Jenkins, Secretary.

Dr. Dunning S. Wilson, Treasury.

The Society was organized for the purpose of promoting the study of neurology and psychiary, and its papers and cases reported are limited to these subjects. The Society meets at the Galt House on the second Thursday in each month.

This is a very important branch of medicine, and the JOURNAL wishes the Society a prosperous career.

THE AMERICAN PRACTITIONER AND NEWS

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EDITORIAL.

THE TREATMENT OF ACUTE ANTERIOR POLIOMYELITIS BY NERVE TRASPLANTATION.

The treatment of muscular paralysis following acute poliomyelitis in the past has been so unsatisfactory with medicine and mechanical supports that these cases have almost been until recently considered as absolutely incurable. While it is true that many of them apparently received benefit from electricity and massage continued for long periods, it is possible that the improvement would have occurred had not this course been pursued, for the reason that it is now recognized that the function is restored in some of the muscles which are at first completely or partially paralyzed, and usually takes place in a short time after the onset of the disease, while almost invariably certain muscles remain paralyzed, resulting usually in deformities of the foot, with flail ankle joint. It was the hopelessness of these cases and the resulting uselessness of the limb that forced them into the domain of surgery. The earliest surgical interference that was proposed was an incision be made into the ankle joint in order that anchylosis take place; this procedure has never found much favor with the profession at large on account of the antipathy of the parent. This was followed by tendon grafting, the results of which have not been at all brilliant.

Lately nerve transplantation has been performed with enough success in a few reported cases to at least give great hope in the future, especially in selected cases.

In *The Journal of the American Medical Asssociation*, Spiller and Frazier reported two (2) cases operated on by them and first proposed by Dr. Spiller. The result in each case was excellent. They state what has been the result of clinical observation, that medical treatment, massage and electricity are of little avail so far as these persistently paralyzed muscles are concerned, but in cases in which one group of muscles remain paralyzed we may expect good results by transplanting the nerve supply of the paralyzed muscles with a mortor nerve in the vicinity. The healthy nerve cells being brought into contact with diseased fibers, the latter are caused to regenerate.

"They further state that this procedure is not permissible within the three or four months immediately following the development of the paralysis, because during this time it is impossible to determine accurately which muscles will recover their function and which will not. Muscles that still remain paralyzed after six months would be the most suitable period for operation, although recovery is still possible from operation at a later date."

"Experimental work was done by Dr. Young by dissection as the most suitable method in this particular group of cases. He gives the following advises as the majority of the operative procedure:

"Great care must be taken not to injure the musculo-cutaneous nerve any more than necessary, and the branches of the nerve which supply the anterior tibial muscle at its upper part were pushed through the incision in the musculo-cutaneous nerve without any attempt being made to separate the nerve fibers from the sheath. Small instruments were used, and the nerves were handled as little as possible.

"The nerves which were anastomosed were divided as high up as possible, so that there would be no tension on them. The deep fascia was not closed with sutures. The skin was united by interrupted sutures. Over the antiseptic dressing a plaster of Paris cast was applied to insure fixation of the limb."

Consumption, from the dawn of history to the present day, has been one of the worst scourges of mankind. It strikes at man's life in a way that brings mental anguish as well as physical suffering. In the past it has shown itself an unconquerable foe. What a victory for the human mind at last to have brought the enemy to bay.

Science has laid before the world the cause of consumption with mathematical exactness, and has given such an insight into the life of the micro-organism which produces it that it is now possible to plan a campaign against the disease which is sure to end in victory for the human race.

Let every physician enlist in the army which is to fight this battle and prepare a crusade against the disease.

Our greatest thinkers have demonstrated that the cure of tuberculosis is a question of nutrition increasing the resistive power of the diseased cell; that tuberculosis can be successfully treated most anywhere. Flick says all that is necessary for the successful treatment is open air, proper food, rest and exercise.

The Ottawa Tent Company, conducted under the auspices of the Illinois State Medical Society, is taking a most commendable step in demonstrating that consumption can be cured in Illinois to influence the Legislature to establish sanatorio for the tubercular poor, and should have the endorsement and support of the profession.

E. S. A.

EDITORIAL NOTES.

We are always pleased to know that justice is done, and when manufacturers spend no end of time, trouble and money to keep an ethical product up to its proper standard they should be encouraged. The following is from the editorial columns of the *Canada Journal of Medicine and Surgery*, January, 1905:

KRESS & OWEN VS. CRUTTENDEN.

On the 8th day of December Police Magistrate Denison, in the Police Court, registered a conviction against Thos. Cruttenden, Jr., who keeps two drug stores in Toronto—one at the corner of Howard and Sherbourne streets, and the other at the corner of Gerrard and Sumach streets—for infringement of the trade mark, duly registered in Canada, owned by Kress & Owen Co., 210 Fulton street, New York, "Glyco-Thymoline." The evidence conclusively showed that the defendant had put up a preparation under the name of "Glyco-Thymol" in bottles almost identical to those of Kress & Owen Co., and with labels worded *verbatim et literatim* to those of the original manufacturers. The Magistrate, in rendering the conviction, gave the defendant's solicitor, who hinted at an appeal, to understand that if he entertained that he would not only fine but imprison his client as

the law provided. The case was adjourned for a week, at the end of which time Cruttenden, through his solicitor, gave an undertaking that he would stop all manufacture of Glyco-Thymol, and destroy all labels, bottles, etc., connected with the sale of that preparation. The firm of Kress & Owen Co. are deserving of congratulation over the result of of this case. They had every reason for prosecuting Cruttenden, as it was nothing short of dishonest, and entirely contrary to the law, that he should stoop to such practices and try to rob a firm, who, by strictly ethical advertising (solely to the profession) and the expenditure of about $175,000 per annum, have secured a large sale of Glyco-Thymoline, a preparation found valuable in catarrhal conditions of the mucous membrane.

Realizing the importance of a society in which clinical workers in ophthalmology may be able to report their interesting daily cases and enjoy full and free individual discussion upon the same, and present theoretical and statistical papers upon ophthalmic subjects, Dr. Oliver, of Philadelphia, has recently organized the "Association of Clinical Assistants of Wills' Hospital." Membership by ballot; is open to all those who have been or are connected with one or more of the clinical services in Wills' Hospital for a period of more than three months' time. Meetings are held at the hospital at 8-30 P. M., on the first and third Wednesdays of each month. All who are eligible are invited to attend and join.

The annual banquet of the Louisville Society of Physicians and Surgeons was held at Seelbach's Hotel, Thursday, January 12, 1905, with Dr. B. F. Zimmerman presiding as toastmaster. Drs. Koontz, Asman, Abell and Spears were put down for toasts and responded ably. A decided majority of those present were called on, however, during the evening, and showed their ability extemporaneously. Out of a membership of thirty about twenty-seven were present. The only business transacted at this meeting is the annual election of officers. Dunning S. Wilson was elected President, Bernard Asman Vice President, Sidney S. Meyers Treasurer (re-elected), and John B. Richardson, Jr., Secretary.

RECENT PROGRESS OF MEDICAL SCIENCE.

SURGERY.

UNDER THE CHARGE OF
F. W. SAMUEL, A.M., M.D.,
AND
W. O. ROBERTS, M.D.

The Association of Cancer and Tuberculosis.—W. A. Bastedo presents the following conclusions:

1. Cancer and tuberculosis not infrequently occur together in an active state, and may be intimately associated in the same tissue.

2. There is probably neither specific favoritism nor specific antagonism between the two types of disease.

3. There are a few reported cases in which one of the affections seems to have exerted a modifying influence on the course of the other

4. Lupus favors the development of epithelioma.

5. Cancer is more common among those with latent tuberculosis than among others at the cancer period of life.

6. The common age for cancer is not the common age for active tuberculosis. (Cruveilher, 1828.)

7. The common sites of cancerous involvement are mostly not those of tuberculous involvement, and vice versa. (Rokitansky, 1838.)

8. A family history of tuberculosis is more frequent in the cancerous than in the general community, and there may be some hereditary relation between the two.

9. A latent tuberculous process in a lymph node may become active when a cancer develops in the neighborhood.

10. Lymphnode enlargement in the vicinity of a cancer is not always cancerous (Claude, 1899), and may be solely tuberculous.—*Medical Record*, December 24, 1904.

Intraperitoneal Injections of Serum and Salt Solution to Prevent Operative Infection of the Peritoneum.—Schmidt has devised a special apparatus by which it is possible to inject salt solution or horse serum into the human peritoneal cavity without danger of injury to the intestines. The skin and fascia down to the peritoneum are punctured

by a short, sharp trocar, which is prevented from touching the peritoneum by a flange which impinges against the skin. The needle, which has a close, rounded end, with lateral openings, is passed down to the peritoneum through the lumen of the trocar, and is then punched through the peritoneum by a quick push. In this way there is little risk of injury to the intestines unless adhesions have bound it to the abdominal wall, and even in this case the fluid would simply flow into the intestine. The author has employed the method in five cases, using as injection fluid 5 to 10 c.c. of sterile horse serum in 250-500 c.c. of physiological salt solution. The fluid was thrown into the abdomen seventeen to nineteen hours before the operation. On opening the abdomen the peritoneum was found congested, and but little free fluid remained. The leukocytes increased to about double their number up to the time of operation, after which they rose rapidly, in some cases up to four times the normal number. The increased resistance conferred by the treatment is shown in one case in which the wound burst open on the fifth day after a gastroenterostomy, and allowed the intestines to escape, but in spite of this secondary suture was followed by uncomplicated recovery. In another case, however, a considerable quantity of pus was evacuated from the stomach in an attempt to remove a carcinoma, and this patient did not survive the infection. The author considers that the procedure might also be found useful in cases in which peritonitis is threatened, as early appendicitis, salpingitis, etc., and that by increasing the natural resistance it would assist other internal or operative measures.—*Medical Record*, December 24, 1904.

Tuberculous Arthritis in Children—Treatment.—Hoffa (quoted in the *Post Graduate*, June, 1904) thus summarizes the treatment of tuberculous arthritis in children:

1. The treatment of this affection should be conservative; three-fourths of the cases thus treated recover.

2. If treatment is become early some cases recover without loss of function; usually, however, ankylosis develops.

3. Ankylosis is often unavoidable in cases in which destruction of the joint has occurred. Marked contraction of the joint is always a result of inadequate treatment, particularly of deficient fixation of insufficient duration.

4. Complete recovery from this disease under conservative treatment usually takes place within two or three years.

5. Whenever possible the child should be sent to the seashore for an entire year.

6. Soap inunctions (sapo kalinus Duverney) are an excellent adjuvant. Medicinally cod liver oil, arsenic and potassium iodide are worthy of trial.

7. The best local treatment consists of a combination of immobilization, permanent extension and the injection of ten cubic centimeters of a 10 per cent. iodoform-glycerin emulsion into the parenchyma of the joint or into the abscess cavity after evacuation if abscess be present.

8. During the florid stage of the disease, *i. e.*, as long as there is pain or fever, the patient must be kept at rest.

9. In the absence of pain the ambulatory method of treatment is indicated.

10. The ambulatory method of treatment is carried out by means of a suitable plaster of Paris bandage, or preferably in a portable apparatus.

11. Before applying the immobilization and extension bandages, existing contractures must be corrected.

12. The correction of deformities is accomplished slowly by means of weight extension or portable apparatus, or more readily under narcosis. Brisk total corrective procedures should never be employed; in severe cases correction of deformity should be performed at interrupted sittings ("Etappen"), followed each time by immobilization with plaster bandages.

13. The mere presence of suppuration is no indication for immediate operation, nor is it a contraindication to the ambulatory method of treatment.

14. The existing abscesses are treated by puncture, evacuation and iodoform injections, every second or third week. The injection should not be repeated until all the disturbances (rise of temperature and pain) arising from the previous injection have completely disappeared. Injections are continued until exploratory puncture demonstrates complete disappearance of the abscess.

15. Incision of cold abscesses is deprecated, owing to the danger of fistular formation and septic infection. Wide incision should be made only in those cases in which (1) the abscess continues to give pain and fever notwithstanding repeated punctures and iodoform injections; (2) perforation threatens; or (3) the original diseased focus has healed.

16. The conservative treatment may be employed in the presence of aseptic fistulæ, as the latter frequently heal spontaneously.

17. In some forms of tuberculous joints Bier's method of passive hyperemia is good treatment.

18. The contractures which remain after healing of the tubercular lesion may be remedied by orthopedic mechanical treatment, or by operation, such as osteomy, resection, etc.

19. If the tubercular lesion fails to heal under careful conservative treatment; if new abscesses continue to develop, and perhaps threaten life; it ichorous fistulæ exist or large sequestræ form; finally, if the tuberculosis runs a very rapid and grave course, it is advisable to resort to more radical operative procedures.

20. The operative treatment should be as conservative as possible; instead of typical, atypical resections or arthrectomies should be employed. The epiphyseal line, particularly in children, should be preserved.

21. With rigid asepsis the prognosis of resection has improved greatly.

22. After resection of a tuberculous joint, ankylosis in good position should be sought.

23. After resection or arthrectomy, contracture of the joints should be prevented by means of plaster of Paris bandages and portable apparatus.

24. Amputation should be considered only in cases in which there is pronounced destruction of the entire joint and simultaneous presence of tuberculosis or amyloid degeneration of internal organs.—*Therapeutic Gazette*, January 15, 1905.

Local Analgesia.—Barker describes his method of producing local anesthesia. He uses B-eucain, which is far less dangerous than cocain, while possessing analgesic properties little, if at all, inferior to it, and with the concurrent use of adrenalin for the purpose of securing a retardation of circulation equivalent to constriction of the part, he has removed some of the objections as to the duration of the analgesia, the extent of the area which can be dealt with, and the amount of the toxic drug to be employed. It is necessary to keep within the safe dose of the drug, and to have at our disposal a large enough quantity of the fluid medium to render it possible to spread the analgesic agent over the large areas. For ordinary surgical work Barker finds the following solution to answer well: Distilled water, 140 c.c.; B-eucain, 0.2 grams; sodium chlorid, 0.8 grams; 1 to 1,000 adrenalin chlorid

solution, 10 minims. All this quantity of fluid can be used in an ordinary case if necessary, and is quite sufficient for most. Twice as much may be injected without ill results. The duration of the insensibility is secured by the admixture of the adrenalin. Without it sensation is only abolished by eucain for about fifteen minutes; with it, for three to four hours. But the analgesia is produced more slowly when adrenalin is employed with the eucain. It is, therefore, well before all large operations to wait some thirty minutes after injection to allow time for the insensibility to become fully developed. After this the affect appears to deepen for a couple of hours. Waiting has another advantage. When eucain alone is employed the operation must be done at once. The tissues are still in a state of artificial edema which masks the anatomic details unpleasantly. By adding adrenalin to the eucain solution and waiting, the artificial edema has disappeared, and details are very clearly seen. Rapid injection is to be avoided; sudden distension of the tissues is disagreeable, if not painful. The fluid should not be used cold nor too hot, for the same reason. All dragging on the parts is to be avoided lest structures be pulled upon which lie beyond the area of infiltration. Barker has never seen any depressing effects follow the use of B-eucain in a long series of operations. A list of operations done under B-eucain analgesia is appended, and among these are the following: Abdominal sections, hernia operations, amputations, orchidectomy, removal of cyst of thyroid, removal of silver wire from around the patella, operations for fistula in ano, varicose veins, hydrocele, variocele, etc.—*Journal of the American Medical Association*, January 21, 1905.

Definition and Classification of Gastric Hemorrhage.—F. G. Connell says that, although gastric hemorrhage may occur without hematemesis, still this is the only reliable, substantial, and practical sign of its occurrence, and, therefore, a study of gastric hemorrhage must necessarily be one of hematemesis. He divides hematemesis into two main types, chronic and acute. Acute hematemesis may be either symptomatic or non-symptomatic, and each of these may be divided into multiple and single The whole question, especially if the possible previous and after history be considered, is a complex one that apparently is in need of further study.—*Medical Record, January 7, 1905.*

BOOK REVIEWS.

SURGICAL TREATMRNT OF BRIGHT'S DISEASE.—By Geo. M. Edebohls, A.M., M.D., LL.D , Professor of Diseases of Women in the New York Post Graduate Medical School and Hospital; Surgeon to St. Francis, St. John's, Riverside and Nyack Hospitals, etc. 327 pages. New York: Published by Frank F. Lisiecki.

There is no field of surgery that has been invaded in the last half century that has brought more comment and been more welcomed than than that of the kidney in Bright's Disease.

When such an authority as Professor Edebohls proposed to treat Bright's Disease by decapulation of the kidney in the year 1901, it came as a great surprise to both the medical and surgical world, for we had been taught to stay clear of operative work on this class of cases unless emergency drove us to, but that his ideas were correct in regard to cases being benefited by operation on the kidneys is an established fact, and the operation of decapulation has come to stay.

In the volume before us he gives us facts and information as regard results that are available up to the present time, and gives the history of seventy-two cases of chronic Bright's Disease operated on by him up to 1903.

While the work is new, the results would justify one in saying that surgery is the only treatment that offers hope to a hitherto incurable malady.

We congratulate Professor Edehohls on the production of the work, the way he has presented the subjects and the way they are dealt with, and bespeak for the work a large sale, as it should be on the shelf of every surgeon's library.

"MEDICAL AND SURGICAL REPORRS OF THE PRESBYTERIAN HOSPITAL" in the city of New York. Volume VI, 1904. Edited by Drs. Andrew J. McCosh and W. Gilman Thompson. 327 pages. New York: Published by Troy Diretory and Bookbinding Company.

The present volume is of especial interest to the profession. There are subjects discussed that are of great importance to both the general practitioner and the surgeon.

The article on treatment of advanced cases of general septic peritonitis from appendicitis by Forbes Hawkes is worth the time of any surgeon to read, while those on acute lobar pneumonia are of equal interest to the practitioner. The Presbyterian Hospital is one of the

foremost institutions of its kind in the country, and having connected with it the staff of such ability makes its report received with pleasure by us, and we feel much benefited by having read it.

THE SUPPRESSION OF TUBERCULOSIS. (Cassel Lecture.) Together with Observations Concerning Phthisiogenesis in Man and Animals, and Suggestions Concerning the Hygiene of Cow Stables and the production of Milk for Infant Feeding, with Special Reference to Tuberculosis. By Professor N. von Behring, University of Marburg. Authorized Translalation by Charles Bolduan, M.D. 12mo. 685 pages. Cloth, $1.00. New York: John Wiley & Sons, Publishers.

What has been said by some one regarding Daniel Webster may also be said of Professor E. von Behring, that "if you accept his premises you are bound to admit his conclusions." Fortunately, however, his statement that "the milk fed to infants is the chief cause of consumption" is qualified by the admission that there may be other factors operating in causing infection. Probably the most significant lesson to be drawn from this exceedingly interesting lecture is that the mucous membrane of new born individuals possesses no continuous epithelial covering, and that the gland tubes of the ferment producing glands are little if at all developed, thus allowing the true albumins to be absorbed as such, and at the same time admitting of the ready access of infectious material into the blood.

The remainder of the book is given up to certain observations relative to phthisiogenesis and a most excellent resume touching the hygiene of cow stables and the production of milk for infant feeding.

The translation is above criticism and the English reader should feel indebted to Dr. Bolduan for putting within his reach such excellent translations of the works of the great German scientists. We hope that other books of educational value will be brought out from time to time by the publishers. D. S. W.

BOOKS RECEIVED.

EYE, EAR, NOSE AND THROAT NURSING. By A. Edward Davis, A.M., M.D., Professor of Diseases of the Eye in the New York Post Graduate Medical School and Hospital, and Beaman Douglass, M.D., Professor of Diseases of the Nose and Throat in the New York Post Groduate Medical School and Hospital. With 32 Illustrations. Pages XVI-318. Size, 5½ x 7⅞ inches. Extra Cloth. Price, $1.25 net. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

MANUAL OF OPERATIVE SURGERY. By John Fairbairn Binnie, A.M., C.M.,

(Aberdeen), Professor of Surgery Kansas City Medical College, Kansas City, Mo , Fellow of the American Surgery Association, Member de la Societe Internationale de Chiurgie. With 559 Illustrations, a number of which are Printed in Colors. Philadelphia: P. Blakiston's Sons & Co., 1905.

MEDICAL AND SURGICAL REPORT OF ST. LUKE'S HOSPITAL, Year Ending September 30, 1904. Chicago: 1416-1436 Indiana Avenue and 1427 Michigan Avenue.

PRACTICAL PEDIATRICS A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr. E. Graetzer, Editor of the *Centralblatt Fur Kinderheilkunde* and the *Excerpta Medica*. Authorized Translation, with numerous Additions and Notes. By Herman B. Sheffield, M.D., Instructor in Diseases of Children, and Attending Pediatrist (O. P. D.) New York Post Graduate Medical School and Hospital; Visiting Pediatrist to the Metropolitan Hospital and Dispensary, etc. Pages XII-544. Crown Octavo. Flexible Cloth, Round Corners. Price, $3.00 net. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

NOTICES.

The following report has been received by us from E. E. Ladd, Chemist and Food Commissioner, Fargo, North Dakota, U. S. A., November, 1904, and is an abstract from North Dakota Agricultural College, Government Agricultural Experiment Station of North Dakota, Bulletin No. 63:

"This product is largely advertised and sold in North Dakota, and has frequently found its way to our laboratory for analysis. It is made by the Liquid Ozone Company, Chicago. After enumerating fifty diseases for which liquozone is recommended, they add: 'All diseases that begin with fever—all inflammation, all catarrh in any part of the body, all contagious diseases, all the results of impure or poisoned blood.' 'We will pay $1,000 to the physician or scientist who discovers a disease germ which liquozone will not kill.' 'Liquozone, liquid oxygen invariably cures any trouble caused in any way by germs.' It will be seen by the last statement an attempt is made to convey the idea that liquozone is liquid oxygen, a ridiculous and false statement. They would have the public believe liquozone a 'cure all' for everything from weak eyes to asthma, pneumonia and piles. In water it will purify it, and prevent typhoid. In milk it will sterilize it, and in beer it prevents fermentation and biliousness.

"What is this wonderful product so persistently advertised and lauded by its interested promoters? One sample of liquozone was found to contain a total acidity of 1.34 per cent., of which 1.18 per cent. was in the form of sulphuric and sulphurous acid. The total solids of black liquid residue of acid reaction amounted to 1.82 per cent., and the ash residue to 0.025 per cent. The character of the solid and ash clearly indicate free acid. Other samples examined by us have shown an acid content as high as 1.73 per cent., indicating that the product is not by any means uniform in its composition. The free use of any product containing this amount of uncombined sulphuric and sulphurous acid can not be looked upon as wholly without possible harmful effect upon the human system. The public will do well to use such products only upon the advice of the family physician."

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

SOME ENGLISH VIEWS ON RHEUMATISM.*

BY PHILIP F. BARBOUR, A. M., M. D.

Professor of Diseases of Children, Etc., Hospital College of Medicine.

THE medical problems which confront our English cousins, naturally, are somewhat different from those with which we contend, and one of the most serious factors in their morbidity and mortality is rheumatism. There, as well as here, the fact that rheumatism is more frequent and more serious in childhood than in adult life is not appreciated, and authors of text-books still write fatuously of its frequency in early adult life, and of its rarity in children. Such errors die hard, and, unfortunately, carry in their train numberless mistakes in diagnosis, and unnumbered pains, illnesses and deaths. Until the profession at large recognizes that growing pains are rheumatic in origin and a frequent cause of organic heart lesions, the work of education must be kept up, and the English pediatricians are doing yeoman service in arousing the profession to a knowledge of all the manifestations of rheumatism and to an appreciation of its importance. As one of the most eminent of the pediatrists said to me: "Twenty-five per cent. of all cases in the children's hospitals suffer from rheumatism in one form or another."

This large incidence of rheumatism in London would seem to follow on the excessive dampness and the overcrowding. But the old theories of dampness and exposure must give way to the discovery of a micro-organism, which seems to have passed the ordeal and to have demonstrated its right to be considered the essential cause of rheumatism. The older men, however, still recognize the importance of dampness, etc., as predisposing causes, probably by lowering the resisting power of

* Read before the Louisville Clinical Society, January 3, 1905.

the organism, and many other problems remain unsolved in connection with the micro-organism. Drs. F. J. Poynton and A. Paine have isolated adiplococcus, to which they have given the name of diplococcus rheumaticus. To quote from their description of the germ: "It is a micrococcus and yet a streptococcus, because it may grow in chains; a diplococcus, because its elements are usually coupled; and a staphylococcus, because on solid media it may grow in bunches." It grows best upon bouillon or milk acidified with lactic acid, and in its growth produces formic and acetic acids and others. This elaboration of acids accords very well with our clinical concept of rheumatism, and puts on a rational basis the empirics uses of alkalies. The habitat of the germ, its extrahuman life and conduct, have not as yet been ascertained. Neither is it known positively how the infection is carried, or contracted, though it is thought that the tonsils are the chief port of entry. Here again effective work must be done to determine the relationship between dampness and the lack of sunshine and the prevalence of rheumatism. Certainly every one has seen cases of rheumatism which seem to have been determined by exposure to inclement weather, and the coincidence has been so frequent as to establish some more intimate dependence than the mere sequence in time. The inheritance of rheumatic tendencies seems also to be conceded. The discovery of an organism gives us something more definite to work upon, and Drs. Poynton and Paine have demonstrated beyond cavil that the organism which they have isolated will produce all the more important rheumatic lesions, such as arthritis, endo-, peri- and myocarditis. As to whether it is the only organism that will produce rheumatism, there is as yet no agreement. It is possible that many different diseases are classed under the generic name rheumatism.

It is thought that the tonsils are the usual entrance-point for the micro-organisms, for clinical cases are being multiplied in which tonsillitis precedes by a very short interval an attack of acute rheumatism. It would appear trite, if it were not so wholly overlooked or omitted, to have the tonsils of all children who suffer from tonsillitis put into as good condition as as possible. If the tonsils are really the focus of infection, then cleansing or antiseptic sprays, or, better, gargles should prove of benefit, or the resisting power of the mucous membrane should be strengthened.

It did not seem to me that sufficient attention was paid to prophylaxis by the staff physicians of the hospital which I attended. The criticism may not be entirely just, for with the very large number of out-patients it was almost impossible to devote much time to any one patient. Still, a few words of advice to get out of a damp dwelling, or to secure attention to the tonsils, ought to be of value to rheumatic cases. The eating of sweets is far less common with English children

than with us, but glucose has a very bad effect upon the tonsils, and should be forbidden to all rheumatic children.

The most important feature of rheumatism is its tendency to attack the heart, and it is the custom of all careful clinicians to examine the heart whenever the case is seen. But, unfortunately, attention has been directed so strenuously upon organic—that is, endocardial—murmurs that it is forgotten that inflamation may attack also the pericardium and, what is still more important, perhaps, the myocardium. When an endocardial murmur is audible, the danger has already been consummated. Many have felt the necessity of diagnosing heart involvement, and, if possible, by appropriate medication lessening the damage which might be done. It is fully appreciated that the muscular wall of the heart is directly affected by the toxins of disease, and sections of the heart wall will show fatty degeneration of the muscular fibre as a result of the toxins of rheumatism. This degeneration causes relaxation of the muscles, and as a consequence the heart becomes enlarged and weak and feeble. Enlargement, then, is indicative of myocardial derangement, and precedes the symptoms of endocardial involvement. Under favorable conditions the myocardium returns to the normal, and the endocardium is spared, but more frequently characteristic murmurs will appear. In all such cases absolute rest in bed, by lessening the frequency of the heart action, as well as lightening the work required, furnishes very needed relief to the heart. Rest in bed is maintained not only until the temperature becomes normal, but also until the heart's action becomes normal, or at least is not markedly increased or made irregular when the patient attempts to sit up.

Dr. D. B. Lees was the first to insist upon the importance of an increase in the area of deep cardiac dullness as showing the myocardial derangement, and therefore has put within our reach a symptom which enables us to gauge to some extent the severity of the heart infection.

To quote from Dr. Poynton: "The earliest clinical evidences of rheumatic heart disease are: A little fever, perhaps some palpitation and pain, possibly even scanty breath on exertion, and a quickened, low-tension pulse; and these physical signs: (1) An outward displacement and feebleness of the cardiac impulse; (2) an increase in the area of deep cardiac dullness; (3) a diminution in the length of the first sound, and an accentuation of the pulmonary second sound at the base; and (4) in some instances the development of a soft systolic murmur internal to the left nipple."

The various forms of endocarditis are familiar to you. But it is not generally agreed that malignant encocarditis could be due to rheumatism. Poynton, however, has demonstrated a very essential relationship between such cases and the diplococcus rheumaticus. He has shown by experimentation that all grades of inflammation of the valves, from

simple to malignant, could be produced by that organism. I had the opportunity of comparing the results upon the hearts of monkeys of intravenous injections of the diplococcus in pure culture and a culture mixed with streptococci. The mixed infection produced multiple abscesses in the walls of ventricles, but the pure culture produced a characteristic vegetation upon the aortic valve.

There is a very close relationship between rheumatism and pericarditis, and it is no wise surprising that a disease which will produce endo- and myocarditis should also cause a pericarditis. It is, however, far less common than the first-mentioned, though more dangerous; its recognition is therefore most important. When the double-friction murmur is heard close under the ear, diagnosis is easy, but too often the case is seen after the effusion has taken place, and the murmur is inaudible. The question to be decided is, then, is the enlarged area of cardiac dullness due to an effusion, or is it due to enlargement of the heart? Rotch has laid great stress upon dullness in the right fifth interspace, just to the right of the sternum, and claims that it is pathognomic. But few have the requisite diagnostic skill to recognize it. Poynton thinks the sign is disappointing. He lays stress rather upon the following points: In effusion the sounds "become more faint and muffled from day to day, but in rheumatic dilatation the sounds, though they may be feeble, are usually clear and distinct. In dilation, though the tension is low and the pulse rapid, it is not such a small and irregular pulse" as in effusion. The pulse in dilatation is more diffuse, and also more palpable than in exudation. The question of paracentesis may become a very vital one. The chances are, in a purely rheumatic case, that the enlarged area of deep cardiac dullness is due to dilatation, and not to effusion. I have seen the greatest relief in a case of pericardial effusion from the application of a large cantharidal plaster.

One of the rheumatic manifestations which is far more common in England than in this country is the rheumatic or fibrous nodule. I have seen it only very rarely in my own patients, and have usually found such cases more severe. Dr. Cheadle considers them pathognomonic of rheumatism, and thinks that they are always associated with the worst cases. Why they should occur so much more frequently in England than in this country is open for discussion and enlightenment. They occur on the patellas, and about the joints in general, on the extensor surfaces, and along the spine. They may appear and disappear in a very short time, but are not often painful.

The arthrites, the heart disorders, and the fibrous nodules are so closely associated in the professional mind with rheumatism that their true nature is soon recognized, but there are several diseases which are closely allied to rheumatism, and yet are not, as they should be, classed as rheumatic diseases. Wry neck, for instance, is very frequent in child-

hood, and is almost invariably rheumatic in origin. Other muscular rheumatic disorders are less common in children, notably intercostal rheumatism, lumbago, sciatica, etc. The question as to whether these are true rheumatism will be answered in the near future.

Certain dermatoses are associated with rheumatism, more particularly erythema multiforme, purpura rheumatica, etc. Even psoriasis is thought by many of the English physicians to be one of the manifestations of rheumatism. Chorea has been accepted for many years as distinctly rheumatic, and as closely associated with many of the other phenomena of rheumatism. Dr. Cheadle, more than any other observer, has demonstrated the dependence of chorea on rheumatism. The feeling seems to be that chorea is a self-limited disease, and that medication, especially with arsenic, is very unsatisfactory; that those cases which get well under Fowler's solution, really recover in spite of the treatment. Certainly arsenic does not exert any specific effect, and there is the danger constantly present of an arsenical neuritis, which is far worse than the original chorea. Dr. Lees treats all cases of chorea with sodium salicylate with very encouraging results. For the very bad cases, potassium bromide with chloral hydrate is the mainstay. Personally, trional or sulfonal has been more reliable and certain than the bromides.

The treatment of rheumatism varied with the different physicians. Some claimed that salicylate of sodium served only to relieve the pain, and, aside from its anodyne action, it exerted no influence upon the course of the disease. Some thought that, as it produced no appreciable effect upon the germs in a test tube or culture, it would be of no value in the internal treatment of rheumatism. But one cannot reason safely from a test-tube experiment as to the effects of sodium salicylate modified by the active energies of the body cells.

The most enthusiastic partisan of sodium salicylate was Dr. Lees, who used it in doses running up to 400 grains a day with double its quantity of sodium bicarbonate. I saw children take forty grains of the salicylate of sodium every two hours for ten doses each day, with relief from pain, fibrous nodules, chorea, etc. But, again, some children could not take it in such large doses without showing the ill effects in their bluish color, poor circulation, and very slow action of the heart. They also looked oppressed and as if they were not getting sufficient oxygen. Dr. Lees uses the synthetic salt, and claims never to have had any serious results from the administration of such enormous doses of the sodium salicylate, if only it was combined with the proper quantity of sodium bicarbonate. He has seen some untoward results from aspirin, and therefore preferred the other salt. If the child vomits, the dose is omitted entirely for some hours, and then given in somewhat smaller quantities.

None of the others went to such limits in the use of the salt as Dr. Lees, feeling that they secured equally good results from smaller quantities of the drug. The results secured by Dr. Lees were very gratifying, but the question may be propounded: "Did not the sodium bicarbonate, by its action upon acid formation, do more good than the salicylate. It is interesting, however, to know what quantities can be administered with comparative safety.

The relation between diet and rheumatism was not considered a very close one, and none seemed to think that a nitrogenous diet tended in any way to increase the frequency or severity of the attacks of rheumatism.

I am indebted to lectures by Dr. Poynton for many of the statements and opinions which I have recorded.

DISCUSSION.

DR. LEAVELL: Of course, I enjoyed the paper much indeed. The question brought out in regard to the relationship between rheumatism and tonsillitis, I think, is a very pertinent one. All of us, I presume, have seen attacks of rheumatism that are associated with tonsillitis. The question has arisen in all our minds as to whether the rheumatic diathesis causes a tonsillitis, or whether the rheumatism developed after the tonsillitis. There seems to be a close relationship existing between the two. We cannot state whether the rheumatic poison gets into the system through the tonsil or not. There must be some relationship existing, because we see so many attacks of rheumatism preceded by tonsillitis. We will often find rheumatic attacks following attacks of quinsy in some way. Whether it is an infective process, and due to a septicemia, or whether it is really a rheumatic toxemia is a question that will have to be decided after we have isolated the germ.

We know the preference of rheumatism to affect the heart muscle, particularly in children. I think many attacks of rheumatism are not diagnosed until we find valvular lesions of the heart. These children have irregular symptoms, and the disease is not diagnosticated, and during the course of two or three or four months, when we apply the ear to the chest, we find that they have heart trouble, and we know that this is closely related to rheumatism, and the child most likely has had rheumatism. We should watch the heart closely in attacks of rheumatism, particularly when it affects children.

In regard to the treatment of chorea, that Dr. Barbour has brought up, I have not been able to obtain results with arsenic. I use aspirin, and I get better results from that than almost anything else. These attacks almost always come in the spring; the children have been in school for several months and become tired and worn out, and rest is

essential. Anti-rheumatic treatment does more good in my hands than arsenic.

As to the use of sodium salicylate in such large doses, I do not believe that the Americans would agree with the English in that respect. We know that it is more or less a cardiac depressant, and there are attacks of rheumatism that produce heart trouble. Perhaps it is the association of the alkaline treatment with the salicylate of sodium that they are able to get such results. I would prefer to use the salicylate of soda in smaller doses in combination with the alkaline treatment, hoping to alleviate or circumvent any heart lesion that might develop; but in my hands there is nothing so efficacious as the use of aspirin in the treatment of rheumatism. I have never seen any untoward results, nor have I had any depressing effects from its use. It is my habit to use aspirin in these cases of tonsillitis. I believe we get better results from aspirin associated with coal-tar products; children will bear the coal-tar products well. They are not given for the relief of the pain, but for the soothing effect they have on the nevous system.

I enjoyed Dr. Barbour's paper very much. I think the cause of rheumatism, whether due to faulty tissue metabolism, whether due to lactic acid or whether due to micro-organisms must soon be decided by the medical fraternity.

DR. FLEXNER: It has been a great pleasure to listen to a paper on rheumatism that did not go back to uric acid as the whole show. I am very glad to have heard Dr. Barbour's paper, and there were many points brought out that were thoroughly in accord with the modern view that rheumatism is an infectious process. I think this is a well-established fact, but that it is always the same process, or due to the same micro-organism, is a very different thing. I am inclined to believe that rheumatism is a generic name, and that many of the cases that are said to have a rheumatic origin are due to a micro-organism, and are septic. Polyarthritis occurs in a great many diseases, and it does not necessarily mean that it is due to an entirely different organism; streptococci have been isolated from many joints. The polymorphism of these germs is a well-known fact, and it all depends upon the culture upon which they are grown and the reaction. We see them assume a great variety of forms, whether they are grown upon potato, serum, or milk, or whether the reaction is alkaline or slightly alkaline, as the case may be.

Unfortunately, rheumatism is overlooked in children. I think it is a condition that will force itself upon the mind of every one who sees much cardiac disease in children. I am in the habit, when called to see a child, of questioning for growing pains. I think these growing pains a manifestation of rheumatism; but the doctor is not called unless

they are suffering acute pain, and this is a factor that enters into the late recognition of the disease.

As to the relation between tonsillitis and rheumatism, I think that there is no fact in clinical medicine more thoroughly proved. Most cases of tonsilitis are due to streptococci. I recall an article by Baker, of Phildelphia, wherein he reported six or seven cases of cardiac trouble following acute attacks of tonsillitis.

The diagnostic point in regard to cardiac enlargement, I think, is one of the most important and, at the same time, one of the most difficult to elicit that I have attempted in a child. It takes a great deal of painstaking investigation in a still child to get at the cardiac boundaries; it is more difficult than in the adult. I have seen men who claimed to do it, but examination after death showed that there was a difference between the true boundaries of the heart, and the way they had outlined it on the chest wall.

As to the relation between rheumatism and chorea, I believe there is a direct connection between the two, and that it is a septic process is a demonstrated fact. I want to say that I have under observation a young boy of six years who has almost been poisoned with arsenic; he had an arsenical nephritis, and the chorea was no better. He has improved more upon salipyrin than anything I have given him. He takes six grains four or five times a day, and it has controlled the choreic movements.

As to the large doses of the salicylates which the English physicians prescribe, it strikes me of being the utmost absurdity; it looks to me like a good thing gone wrong. It is not necessary in this country to give such large doses. I never give a patient over one hundred grains a day. Fifteen-grain doses in tonsillitis relieves the patient. I never give large doses that I do not give nux vomica to protect against the depression that it produces on the heart.

DR. SATTERWHITE: Of course, there is no difficulty in the diagnosis of inflammatory rheumatism, but there are multiple pains that may be considered, and are considered, as due to rheumatic trouble, as has been mentioned, growing pains, pains in the extremities, and pains generally, and pains about the neck. I have noticed many and many a time that patients will complain of sore throat; there is considerable difficulty in swallowing, and the great trouble will be to determine what is to be done for the sore throat. When we examine them we will usually find that the trouble is in the muscles of the neck. All of these things are recognized as rheumatic trouble, and I always give antirheumatic remedies, and they serve me very well.

So far as chorea is concerned, I have seen a great deal of it, and I cannot make up my mind to associate chorea with rheumatism, nor can I consider rheumatism as a cause of chorea, although it is generally

considered as a cause of it. I have seen many and many a child who has never had any growing pains or any muscular pains or any rheumatism at all, and yet they have this nervous manifestation. The medical profession has generally recognized that there is a connection, and give anti-rheumatic remedies. Many times I give them nothing but rest, and they get well just as quick under no treatment, but, if they are anaemic, I give them iron tonics, and they get well under that without any anti-rheumatic remedies.

It is exceedingly difficult, and no one but an expert can determine beginning hypertrophy of the heart in a child. There are men whose ear is so educated that they can tell with regard to hypertrophy of the heart even if it is infinitesimally enlarged.

I give the salicylates as Dr. Flexner gives them. If I give over twenty-five or thirty grains of the salicylate of soda at a dose I have to stop it in twenty-four hours. I use aspirin more than anything else; I can give it in larger doses and longer than I can the salicylate of sodium.

I congratulate Dr. Barbour on his giving us this exposition of rheumatism; it is a very valuable paper, and I am in hopes that the profession in general will get it and read it.

DR. CHEATHAM: The gentlemen who preceded me in the discussion of the paper have left little to be said. I was much interested in Dr. Barbour's paper, where he brings in tonsillitis and suggests that the mucuous membranes be put in good condition. There are very few who appreciate how much tonsilar tissue there is in the body. If the tonsils had anything to do with rheumatism it would be a big job to remove all of the tonsillar tissue in the body. Besides the faucial tonsils, there is the so-called third tonsils, a ring of tonsillar tissue around the wall of the pharynx, tonsillar tissue in the larynx, and Peyer's patches are said to be tonsillar tissue; there is tonsillar tissue in the appendix. When we begin to remove tonsillar tissue we will have quite a job.

I look upon rheumatism as an acute infectious process, like Dr. Flexner. I believe we know comparatively little about rheumatism. I think we make the mistake of looking upon it as one disease; I think the name covers several diseases. One good thing in the beginning of tonsillitis is to clear out the intestinal tract; this should be done in any acute rheumatic condition; possibly the infection gains entrance to the system through the intestinal tract, and the first indication is to clear out the infective point with calomel, followed by a saline. Many make the mistake of giving no local treatment for tonsilitis. If the infection comes through the tonsil, it is important to get rid of the source of the infection; to do that I take an alkaline wash, and take a syringe with a long tip, and wash out the follicles and get rid of the secretion. I think it is important to treat these cases of tonsilitis by washing them out. I

have been afraid of the blowing-out method by air; there is danger of inflating the cellular tissue of the neck. I use an alkaline wash.

I never give the salicylates without giving strychnine. I use five grains of aspirin and 1-150th of a grain of strychnine to the capsule. I heard a discussion some time ago in a medical society where Dr. Barbour brought up the point as to whether the salicylates had any effect in shortening the disease. I have seen cases where the salicylates lessened the symptoms; but sometimes they last six weeks whether we give the salicylates or not.

DR. MARSHALL: I agree with what Dr. Cheatham has said in reference to rheumatism, so called. I believe that there are a great many troubles classed as rheumatism that are not rheumatism. I see a great many cases that are classed as rheumatism that are strictly dietetic. These patients have been under my care for years, and, if they have a certain dietary lasting but a short time, it will result, as sure as it is followed, in an attack of painful joints, and generally in these patients it is not limited to the same joints. I agree again with Dr. Cheatham that in these cases where I can see a relation between the dietary and these attacks there is nothing does good like purging, especially with calomel, and a careful dietary afterwards, and, if we can control the patients, limiting the things that lead up to this, we can ward off the attacks in these patients for a long time.

As to the use of the salicylates, I agree with the American side of the case. I would never advise an adult to take forty grains of the salicylate of soda five times a day. I have never given a child as much as ten grains at a dose, repeated every two or three hours.

With reference to hypertrophy, it was my privilege for years to teach physical diagnosis at the University of Louisville, and I spent an immense amount of time in the study of diseases of the chest, and it always causes in me a sence of merriment when I see in the text-books and in discussions before medical societies the statement that you can outline a slight enlargement of the heart. Those that I have seen attempt to demonstrate their ability have failed completely to satisfy me. When the heart is greatly enlarged you know all that is to be known, and I do not think, in an irritable baby or child that is afraid of the doctor at any time, it will do any good to worry them by looking them over for a slight hypertrophy of the heart which you cannot tell.

DR. MORRIS: I was exceedingly interested and entertained by the paper. I was exceedingly glad to know that there was something new relative to rheumatism, if, as the doctor says, they have isolated the germ, located it, and confined it on the other side. I am exceeding glad for it, because that is a point that has been very much discussed, and

about which there is a great diversity of opinion. I myself had not thought that we knew the cause of rheumatism.

I would say that I agree with Dr. Cheatham in regard to the treatment of acute rheumatism; my experience has been very satisfactory in treating acute rheumatism with the salicylates in some form, and I have always, or nearly always, gotten good results from that line of treatment. As to the results on, and complications of, the heart, it is claimed by a great many, as you know, that that can be prevented by the early use of the salicylates. The English people use much larger doses than we do here. We could give larger doses, if, as Dr. Cheatham says, we would give strychnine or some heart-sustainer with it. We can give large doses if we guard against the depressing effects in that way.

I think further that a large per cent. of the attacks of rheumatism could be avoided by proper hygiene and by proper clothing, and the habits being regulated in general. I believe there is no question but what the surroundings have a very large bearing on rheumatism; as to what the exact cause my be, I do not know, but certainly predisposing causes have largely to do with rheumatism, in my judgment; therefore I think that we should warn our patients to observe proper hygienic rules, so that these attacks might be avoided.

DR. ALLEN: Some two years ago I remember to have listened to a carefully-prepared paper by Dr. Cheathan on the subject of the relation between rheumatism and tonsillitis, when the whole ground was thoroughly covered. It was one of the most intelligent papers that I ever listened to, and I have seen no reason to change my opinion from that time to this. As Dr. Cheatham says, it is necessary to stimulate the heart-action with strychnine, and I use the salicylates without fear of after-effects, and I never fail to get good results.

I could say a good deal more, but it is not necessary.

DR. DAVIDSON: I wish to thank Dr. Barbour for the opportunity of listening to his able paper. I have read with much interest the investigations of Poynton and Payne, the two English physicians referred to, and it seems to me that they have proved conclusively that rheumatism is due to a germ. Since they claim that this germ grows in an acid medium, I also believe that the bicarbonate of soda is the proper treatment, given with the salicylates. I have used the bicarbonate of soda in twenty-grain doses in a case recently, in which I was quite fearful that she had an organic murmur, a systolic murmur.

DR. FLEXNER: Was it heard at the apex or at the base?

DR. DAVIDSON: At the apex.

DR. BARBOUR (*closing*): I have only a few words to say in conclusion. I thank the members of the society for their interesting and thorough discussion of the paper. It was not my purpose to express my own

opinion as to the causes of rheumatism, but to give you the views of many men whom I met during the summer. So I would not put myself down as recommending the large doses of salicylate of sodium that Dr. Lees recommends. I thought it would be of interest to the society to hear of the large doses of the salicylate of soda that are given by the English physicians should the occasion arise. I saw the salicylate of soda employed for several weeks continuously in a child with no untoward effects at all.

DR. FLEXNER: What effect did it have on the kidney?

DR. BARBOUR: None at all.

They give the bicarbonate of soda in twice the size doses of the salicylates, and the patients do exceptionally well under those large doses. I thought it would be of interest to the society to hear the results along that line.

As to the use of arsenic for chorea, I am rather opposed to the use of arsenic myself, especially in large doses. I think where it accomplishes any good it is better to keep it up for a long time in small doses. Many men recommend that it be given in large doses, and then taper off. I should be loath to start with a large dose in a patient whose susceptibility I did not know. I believe that the salicylates used in chorea will give better results than arsenic. In some cases followed by anæmia, arsenic seems of value in building up, as well as relieving, the chronic movements.

As to the cause of rheumatism, it is practically conceded by every one that Poynter and Payne have discovered an organism that will produce rheumatism; whether it will produce all the diseases we call rheumatism has not been proven. It has not been long enough known to determine all of these factors. It is of interest to know that there is an organism that will produce some of the symptoms of rheumatism. If that is proven conclusively, then we have a definite disease with a definite cause and a definite etiology, and we can determine whether these other diseases are rheumatic or due to some other cause.

THE INDICATIONS FOR REMOVING THE FAUCIAL TONSILS; THE METHODS OF REMOVAL AND COMPLICATIONS.*

BY ADOLPH O. PFINGST, M. D.

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THE question of the advisability of removing the faucial tonsils is not always an easy one to decide. It is true that even though no benefits may be derived, in some instances, from the removal at least no harm can result, a fact however which in no way justifies an indiscrimi-

* Read before the Louisville Society of Medicine and Surgery.

nate removal of tonsils which may perhaps be somewhat enlarged. A careful study of the individual case should be made and a conservative stand taken, the operation being suggested only after we are convinced that the presence of the tonsils is a detriment to the welfare of the patient.

The most obvious indication for the removal of the tonsils is an excessive enlargement or hypertrophy causing encroachment upon the faucial space and interfering with deglutition, respiration or phonation. Even when not excessively large we are justified in treating the tonsils surgically when by their presence they cause pressure upon eustachian tube and secondary interference with the function of hearing. Tonsils subject to recurrent attacks of cryptous inflammation at intervals frequent enough to retard the development of the child are also best dealt with surgically. Another indication for taking out the tonsils is the presence of a chronic superficial pharyngitis or tonsillitis where the tonsillar inflammation seems to keep up the pharyngeal and frequently a laryngeal irritation. This is particularly true in actors, speakers or singers, whose voices give out easily as a result of the chronic affection.

With any of these conditions existing the only factor which could be considered as a contraindication to tonsillar abscission is a hemorrhagic diathesis or hemophilia on the part of the patient. It is held by some that removal of the tonsils is followed by a slight elevation of the pitch of the voice, and an erroneous idea exists among the laity that the voice is forever ruined by taking out the tonsils. Granting that the pitch is occasionally slightly raised after the operation, this could be a consideration only with the alto or bass singers, while the tenor and soprano could only look with favor upon something that would elevate the pitch of their voices.

After the removal of the tonsils has been decided on, the question to be considered is whether the so-called tonsillectomy, the radical removal of the tonsillar tissue, is necessary, or whether the removal of a portion of it (tonsillotomy) will suffice. Tonsillectomy is the modern surgical operation of the throat, and is being largely practiced in this country. It is employed principally in cases of recurrent tonsillar or peritonsillar inflammation where, to prevent recurrence, it is advisable to remove as near as possible all of the adenoid tissue between the faucial pillars. This radical measure is also recommended in cases where the cervical lymphatic glands are enlarged with the hope of preventing other infection, or with a view of preventing recurrent cervical adenitis. To remove the adenoid tissue between the pillars of the fauces, the so-called submerged portion, curved scissors, tonsillar punches, curette, electro-cautery, and various other devices, have been employed.

The more common operation, that of abscising the protruding por-

tion, is best performed by means of a tonsillotome. There are many instruments of this kind on the market, although the instrument of Mathieu has met with most favor, and is undoubtedly the most servicable. It has the advantage of having the long diameter of the guillotine vertically when in position, and its narrow frame takes up but little room in the throat. If the object of the surgical procedure is merely to increase the size of the faucial space and thereby aid in deglutition, respiration and phonation, a tonsillotomy with the tonsillotome is all that is required. The hot and the cold snare, or forceps and bistuory, have been used to remove the protruding portion of the tonsils, though much less frequently than the guillotine. The latter has the advantage, especially in children, of being easily and rapidly applied, and of causing less fear to the patient than an exposed knife. It has the advantage over the cold and electric snares that, with it the operation is less painful, and more rapid of execution. The instrument can be used as a tongue depressor and can rapidly be slipped over the tonsil while the child is retching, and the organ removed almost before the patient is aware that anything is being done.

With beginners, probably the most frequent cause of failure to remove as much of the mass as desired, is a failure to get the under portion of the ring of the instrument well below the tonsil before applying the upper portion. The lower end of the tonsil is often pendulent, and when this overhanging portion is well hooked into the ring of the instrument the rest of the mass easily slips in by making slight pressure upon the instrument. Another common cause of failure to do a good tonsillotomy is that the adhesions of the faucial pillars to the tonsils are overlooked. This condition is quite common in subjects who have had frequent recurrent attacks of tonsillar inflammation. The pillars should be well separated with a blunt hook or a bent knife before using the guillotine.

In adults or manageable children the operation of abscission of the tonsils can be done without an anesthetic with the patient in the sitting position and with reflected light. In unmanageable children, I use nitrous oxide gas, perferring this to chloroform or ether, as it allows the operator to keep the patient in the upright or natural position. I have used chloroform for the performance of this operation, but my chief objection to it is that the work has to be done in the recumbent position, and that the throat fills up with blood as soon as the first tonsil is abscised, so that in the removal of the second one the instrument has to be guided by the sense of touch rather than sight. I frequently have the child held by an assistant, and with the mouth held open by means of a gag, remove the masses without an anesthetic, as I believe that the operation is not very painful. In such cases the assistant must be well instructed before beginning the operation. With the child on the left

knee the right leg of the assistant is crossed over the left, the legs of the child being held firmly between the two. The right hand of the assistant is passed across the child's chest to grasp the left arm which, at the same time, pinions the right arm to the body of the child. The head is held with the left hand which can also keep the gag in position. It has been my custom to depress the tongue with a tongue-depressor in the left hand, then to apply the tonsillotome; at the same time making pressure on the side of the neck with the left hand from which the tongue-depressor has in the meanwhile been dropped. This external pressure makes more of the tonsil engage in the instrument and consequently allows you to get the tonsil out closer to its base. I rapidly reverse the instrument for the second tonsil, usually without giving the patient opportunity to expectorate. As I find the left tonsil somewhat more difficult to get at than the other, I always remove the left one first.

The dangers of the tonsillotomy are very slight, although alarming and sometimes fatal hemorrhage may follow the operation. As adults are more apt to bleed than children I believe that we should not remove both tonsils at one sitting in the adult. Bearing upon this, I quote from Bosworth, who says, "I never undertake the operation in adults without apprehension, and without being prepared for emergencies." The bleeding after a tonsillar operation may be profuse, occurring immediately after the operation, and causing the patient to retch and cough and usually to become very much frightened. Children, during such a hemorrhage, frequently swallow considerable of the blood which may subsequently be vomited. Hemorrhage may also be of an oozing nature —parenchymatous. This form of hemorrhage usually begins several hours after the operation, or even after one or two days. Fatal cases of post-operative hemorrhage are said to be extremely rare, especially in children. Personally, I have had no fatality, but in one case the bleeding persisted rather profusely—long enough to become alarming. This was in a rather full-blooded girl. I might, incidentally, say that she was menstruating at the time, and as I have seen persistent tonsillar hemorrhage after operation upon another occasion in a girl who was menstruating, the possibility of a connection between the two naturally suggests itself.

The most common causes of tonsillar hemorrhage are (1) a hemorrhage diathesis (hemophilia), or other diseased conditions of the blood in which the power of coagulation is below par; (2) a fibrous condition of the tonsils which is seen as a result of frequent inflammation of the tonsil and which prevents contraction of the arterioles, and (3) abnormalities in the distribution of the blood vessels of the tonsils.

In deciding upon the management of alarming hemorrhage of the tonsils it is important, if possible, to inspect the bleeding surface with the view of determining whether the hemorrhage is taking place from a

single vessel or whether there is a general oozing from the cut surface. If the former, an attempt should be made to grasp the bleeding vessel with a hemostat and arrest the hemorrhage by tortion. Failing in this, direct mechanical pressure should be resorted to, either with the finger or by means of special tonsillar hemostat. As a last resort, ligation of the common carotid has been recommended. Styptics, such as the iron salts, tannic or gallic acid, adrenalin, or hot and cold water, are of little or no use in this kind of hemorrhage. They may be of some service in cases of incontrolable parenchymatous bleeding, but even in these it may become necessary to finally resort to mechanical pressure or cauterization of the bleeding surface to arrest the flow of blood.

In excitable individuals, I believe that small doses of morphia are indicated to quiet the patient. It is said that nearly all cases cease bleeding spontaneously when the patient, becoming weakened by the loss of blood, enters into a state of syncope.

Pain, after a tonsillar operation, is very slight in children, and usually also in adults, unless the pillars of the fauces have been wounded during the operation. An exudation forms in several days, covering the cut surface and furnishes a protection to the underlying structures. No especial after treatment is called for.

DISCUSSION.

DR. KENNEDY: There is nothing at all to criticize in this paper. Every point has been brought out. I am certainly glad to find that one of our throat specialists takes the stand that we should save the tonsil. The physiologists claim not to know, or at least they do not know the use of the tonsil, but, nevertheless, I feel that there is some use for it even if we do not know what it is. I think if it is possible to save it, it is our duty to do so. Of course in some conditions the function of the tonsil is much damaged and then it should be taken out, and I think the essayist's reasons given are all that could be expected for removal of the tonsil; but wherever possible the tonsils should be saved.

DR. P. R. TAYLOR: The Society is to be congratulated on hearing so excellent a paper and so full of a discussion. The point in the paper to which I wish to speak is, when a tonsil should be removed. The speaker just preceeding me, an excellent general practitioner, stated that removal of the tonsil was indicated when the tonsils were sufficiently enlarged to cause snoring. They certainly should be removed when the hypertrophy has reached that stage. In reality they should have been removed months, and probably years, before that stage of hypertrophy had been reached.

Specialists recommend the removal of tonsils when the enlargement interferes with phonation, deglution or hearing. There are symptoms

which indicate the removal of tonsils long before they interfere with phonation, deglution or hearing. There are symptoms which indicate the removal of tonsils long before they interfere with phonation, deglution, and hearing, which is the interference with general nutrition. The increased development of adenoid tissue in and about the crypts of the tonsils dams back the lymph about the neck, head, and chest, which, if allowed to remain, will result in enlargement of the cervical lymphatics, with lessened nutrition and general debility, which usually persists until the child reaches the age of fifteen or eighteen years, unless the tonsil is removed. The same condition obtains in regard to adenoids of the pharynx, or third tonsils. The general practitioner is apt to overlook the cause of the debility of a child when due to hypertrophy of the tonsils, and attempt to relieve it by giving iron and other constitutional remedies, which support the system to some extent, but do not cure. To remove the tonsils, which would remove the cause, supplemented with constitutional treatment, would rapidly relieve the patient. Hypertrophied tonsils often cause marked general debility when the enlargement is scarcely appreciable, and their removal is always indicated whenever they begin to offend the general system, and long before they begin to interfere with deglutition, hearing, or phonation. To give the best results and complete relief, great care and pains should be taken in removing the tonsil so as to give relief. The simple ablation of the tonsils will usually fail to give the desired relief.

DR. W. A. JENKINS: I rise not to attempt to add anything to what has been said upon this subject by the two excellent specialists who have given us papers on tonsillar hypertrophy, whether it be the true tonsil or adventitious tonsillar structure. I simply rise from the standpoint of the practitioner to state my appreciation of these papers. I listened to them both carefully, and feel that I have been entertained and instructed.

The thing that strikes the general practitioner is the question of removal, which Dr. Pfingst has explained to us, and Dr. Taylor also. I must say that, from my experience in the last ten years, that my views coincide with those of Dr. Taylor. I have noticed these cases where the true or faucial tonsils were involved, and in some of them I advised that the tonsils be removed. This was looked upon favorably, and prompt removal was followed by an amelioration and disappearance of all the symptoms.

On the other hand, where the hypertrophy was not excessive or marked, I have observed that the operations were refused by the families of the children, and they have shown evident and marked troubles along the lines pointed out by the essayist; and it is from observing these cases that I believe wherever there is partial hypertrophy, certainly the best and most conservative procedure is to remove this tissue. I believe that by doing this in every case we will get rid of the distressing train

of symptoms that is usually present, if we leave this hypertrophied tissue in place.

DR. S. B. HAYS: I enjoyed this paper immensely. It may be interesting to mention here that I was called to see a baby with tonsillitis the other day, and I asked the condition of the other children, and I found that four out of seven had tonsils about twice as big as an almond, and when I asked one little fellow to put out his tongue it looked like he was going to pull two tonsils out of his throat. The tongue was protruded, and the tonsils were in alignment with the angles of the mouth. Three of the children had chronically-enlarged tonsils, and were running around with no further trouble than just the remains of the old tonsils, while the one in bed exhibited quite a febrile state and general debilitated condition. His tonsils are quite large.

DR. HENDON: I am particularly impressed with this subject on account of the wide divergence of opinion that seems to exist among men working along this line. As to the indications for the removal of the tonsils, that has been impressed upon me from the fact that I have referred cases to the specialists in which I thought removal of the tonsils was indicated, and have been embarrassed by having them referred back to me without removal. To-night I have listened very carefully to what has been said on the subject that I might find out just how much interference with phonation and how much hypertrophy of tissue would justify removal of these organs, and it seems to me that it is largely a matter of personal equation; what one man regards as sufficient for removal, others do not. One case particularly I had sent back to me with the injunction that we wait until there were some indications for removal, and in that instance the child's tonsils protruded a great distance beyond the pillars of the fauces. I wonder if some standard could not be fixed as to how far beyond the pillars of the fauces the tonsils should protrude, as to what diameter it should have, and what particular interference with phonation should exist to indicate removal. I wish that a standard of that kind could be set up so that we men, who have no idea of that condition, may know when to refer the patient and when not.

DR. SPEIDEL: I would like to ask the essayist in regard to the point made on peritonsillar abscess, as to whether removal is indicated in all cases, and as to whether it will prevent a recurrence of peritonsillar abscess. I have had a patient under treatment who has had a second attack of peritonsillar abscess. The tonsil is extremely small, apparently not enlarged at all. He is willing to undergo an operation if a positive prevention of recurrence can be assured him. I would like to have the essayist's opinion on that point.

DR. ZIMMERMANN: General practitioners are often called on by patients to advise them as to whether the tonsils should be removed or not. Certainly, for the general practitioner, this is a timely subject. Much

has been said in regard to hypertrophy of the tonsil, and the effect of this upon phonation and hearing. Now, I have encountered a number of cases where there seemed to be extensive destruction of tonsillar tissue, particularly in attacks of follicular tonsillitis. I have found one, two, or three follicles involved, and you will find, upon making examination, quite a cavity, representing, to my mind, extensive destruction of tonsillar tissue. I do not think the essayist mentioned it. It seems to me that there was an extensive destruction of tonsillar tissue in these cases, particularly in cases that had had frequent attacks of tonsillitis, and that removal of this entire organ by tonsillar forceps, or some other means, would be the proper thing to do. I do not offer this as any advice to the gentlemen here, but I am asking for information, and want to know. Recently I have had three or four cases that presented symptoms of this kind. I would like to know whether this is an indication for removal, because they invariably ask the practitioner whether these tonsils should be removed.

DR. BARBOUR: I am sorry that I did not get to hear all of Dr. Pfingst's paper, which was a resume of a subject of the indications for removal of the tonsil. I am deeply interested in the subject of tonsillar operations. I believe that the specialist on diseases of children is as much interested as the specialist on throat and nose diseases in this question of when the tonsils should be removed. I hold that any man who follows the speciality of diseases of children must not only study the ordinary diseases of pneumonia, diarrhœa, etc., but that he must keep constantly in mind the effects of the various diseases which condition the child's development and growth, and I do not think we do our full duty to the child unless we guard against all untoward accidents that may happen to the child. There is hardly anything that bears more upon the vitality and growth of the child than the field we have discussed to-night.

I heartily agree with Dr. Pfingst when he says that when the tonsils are enlarged and give symptoms they ought to come off.

In regard to pain, I do not think that the operation in children is so painless as the essayist held out to us. I have observed that when one tonsil has been removed it is almost impossible to get that child in the office again. Of course, there is more pain when the pillars of the fauces are cut than when the tonsils are cut. I saw a patient to-day who was operated on several years ago; the tonsils were removed on both sides; he told me that on one side it gave him the dickens for about a week.

Not only should the tonsils be removed when they are enlarged and interfere with hearing and phonation, but when the effect of the large tonsils on the nervous system is such as to interfere with sound, restful sleep. When the child begins to snore at night from enlarged tonsils they ought to be removed. I have seen children wake up with night

terrors from lack of insufficient oxygen due to the enlarged tonsils. Whether the tonsils are large or small, project much or little, if these symptoms arise, they should be removed.

I have under my care two children, twins; they were so much alike that it was impossible to tell them apart. I was able to persuade the mother to have one of these children operated on for enlarged tonsils. That was a year ago, and the child operated on has grown more than an inch taller than the other child; she is better developed about the body. I have no doubt but that it was due to the removal of the tonsil. She has a better supply of oxygen, and therefore better health than the other child.

DR. GOSSETT: I should like to ask if, in a case that gives a tubercular history, the enlarged tonsils should be removed. I remember a case eight years ago of a girl who was tubercular; her tonsils became enlarged, and she had frequent attacks of tonsillitis. I was afraid if we removed the tonsils we would have more trouble in the lungs. In a case of that kind, would the removal of the tonsil be beneficial or not?

DR. IRELAND: I enjoyed very much indeed the essay and the discussions, and I heartily coincide with every word and every view expressed by Dr. Barbour. I have observed a great deal of improvement in children who have undergone this operation.

As to the interference of blood during the operation, and the anæsthetic for the operation; as a rule, these operations are on children, at least a large per cent. of the operations are on children, and I think in nearly all instances where the operation is done on children that it cannot be done thoroughly without a general anæsthetic. I hardly think the anæsthesia from nitrous oxide gas lasts sufficiently long to remove the tonsils, and especially to remove adenoids of the pharynx also; I rather believe that most generally adenoids exist when the tonsils are very much enlarged, or have been enlarged for a great length of time. The anæsthetic I believe par excellence would be that of chloroform.

The blood obscuring or obstructing the view I believe can be overcome by the position of the patient, by turning the patient on the side and having the mouth a little lower than the throat; we will have good drainage, and the blood will not accumulate in the throat. The light will be just as good, and the tonsils and adenoids can be removed just as well. I have given the anæsthetic a number of times for this operation, and have suggested this position. Those who have used it like it very much indeed. They are not bothered by an accumulation of blood in the throat.

DR. MORRIS: Dr. Pfingst has left little to be said. I want to say that I concur in everything that Dr. Barbour has said. He well understands the pathology of the tonsils.

In answer to Dr. Hendon, I will say that it is not a question of how

far the tonsil projects; if we have diseased tissue, it should be removed. It is best decided by the embarrassment to respiration produced by the enlarged tonsil. Also, if the crypts are full of cheesy exudate, so that particles of food get in and excite repeated inflammations, probably under all these circumstances we are justified in interfering.

As for the symptoms indicating removal, if you had a child that had a cough that kept recurring and did not respond to cough remedies, or the child had repeated sore throat as the result of mouth-breathing, and if, as Dr. Barbour said, the child is the subject of "night terrors" and snores in its sleep and is backward at school; and, if the chest development is deficient and there is no history of rachitis, while there is of derangement of the stomach and digestion, I think these are sufficient indications to go after the tonsil, if it be enlarged.

As for the instruments Dr. Pfingst has shown us, I have used one or two of these forceps, but they would not cut the tissue off completely; a portion of the tissue would be left attached, and would have to be torn or cut off. As for the other instruments used in these operations, I have used the snare, and when it is used the hemorrhage is less, especially in adults. One objection to the snare is that in one of my cases it cut through quickly, and the patient swallowed the tonsil, and would not believe that it had been removed.

In regard to the hemorrhage, most of this hemorrhage does not occur from the body of the tonsils, but from the wounding of the pillars of the fauces. For separating the pillars I do not know of anything better than a pair of blunt-pointed scissors curved on the flat, rather than the variously-divided knives. As for anæsthesia from cocaine, I have used it on patients and on myself without a particle of pain.

In regard to hemorrage, I use a 10 or 15 per cent. solution of alumnol. It is an aluminum salt of naphthol and sulfonic acid. In several cases hemorrhage bothered me a good deal, and by applying this remedy I controlled it admirably.

DR. MOREN: I would like to ask the question as to what relationship exists between enlarged tonsils and goitre?

DR. PFINGST (*closing*): Before I forget it I will say in regard to Dr. Moren's question that I do not know anything about it. I have never noticed any connection between the two. I am glad that Dr. Taylor has called attention to the enlarged cervical glands. Undoubtedly that is an indication for removal of the tonsils. There is one point that I hope Dr. Taylor will be allowed to explain, and that is what he means by an enlarged tonsil. To me this is a relative term. The tonsil originates from epithelium buds dipping down into the mucous membrane between the faucial pillars, in which the central cells atrophy and leave the crypts; I believe that would be a normal tonsil, but it is submerged, and is extremely rare. With the increase in adenoid stricture around the crypts there is an increase in size of the entire tonsil, and it would

be a difficult matter to draw a sharp line between hypertrophied tonsils and those not hypertrophied.

As to the indications for removal, I believe if we would bring the question home to ourselves we would be able to decide more readily than otherwise. We frequently find that children who are mouth-breathers snore at night, and that is certainly an indication for removal. Otherwise, let us look for secondary affections before deciding upon an operation.

In answer to Dr. Speidel's question, the tendency to the formation of peritonsillar abscess can be lessened by cutting away the submerged portion of the tonsillar tissue with scissors or punch that Dr. Morris has spoken of, but we cannot say positively that there will be no recurrence of the quinsy. I do not believe that removal with the tonsillotome would prevent it, although this operation might also lessen the probability of tonsillar and peritonsillar infection.

In regard to the destruction of tissue mentioned by Dr. Zimmermann, I believe he means the displacement of the tonsillar tissue by fibrous tissue. I believe that these are indications for removal, because it is the result of frequent inflammation. When they incite recurring inflammatory attacks they ought to come out. These are the cases where there is danger from hemorrhage.

Although it is late, I would like to say a few words about one point that has interested me—the question of pain during the tonsillar operation. I recently told a gentleman for whom I was to remove a tonsil that the authorities speak of tonsillar tissue not having a nerve supply, and that the pain, if there was any, would come from putting the instrument against the faucial walls. He assured me after the operation that the cutting of the tonsil had caused him little or no pain. I think the sight of blood frightens the children, and not the pain.

In answer to Dr. Gossett's question, I would say that the fact that a patient is tubercular is by no means a contra-indication to the removal of the tonsils, although I do not think the tonsils should be removed in the advanced stage.

Regarding Dr. Ireland's remarks, I cannot agree with him. I think, if he had once tried the operation himself of removal of the tonsils in the recumbent position, he would find that it is not so easy. I have done the operation under a general anæsthetic, and have held the individual in the position he spoke of, and the excess of blood obscured the field; there is a certain quantity you can get rid of. I thought that by taking the lower tonsil first, we could possibly do away with the objection, but the throat would fill up with blood just the same, making the removal of the second tonsil by inspection almost impossible. I think the doctor is mistaken in his ideas.

THE HOME TREATMENT OF FRACTURE OF THE FEMUR.*

BY DONALD R. JACOB, M. D.

IN choosing a subject it occurred to me that a paper upon the home treatment of fractures of the femur, with the discussion it would bring out, would be of interest to most members of this Society.

The object of this paper is to treat of that class of patients who are unable to afford either a trained nurse or the expense of an infirmary, and who, from force of necessity, must receive such nursing as their family may be able to give.

While it is true that we usually feel more anxious for the welfare of our better-to-do patients, both on account of their personality and their wider scope of influence in case, we do or do not meet with success in the treatment of their cases; nevertheless, such cases as form the subject of this paper, aside from the humanitarian reasons—for the patient is frequently the bread-winner of the family—do give us more trouble because of the very fact that they are not financially able to procure such trained assistance as will render our task easier.

That every doctor occasionally has cases of this sort is a fact that we all know—cases that are not always possible, nor advisable, to send to the city hospital. Many of these cases are able to make some remuneration after they are well and back at work. Again, many of them, perhaps the majority, are employes of some concern which is insured by some policy which protects them from a damage suit, and also pays for the first attention rendered by a physician called to attend the case. These companies do not, as a rule, pay for the subsequent attention; nor, for our own protection, is it always advisable to turn these cases over to the family physician (when there is one) and should we do so it would only be shifting the work to someone else.

The fact that these cases, which sometimes tax the ingenuity and patience of us all are of quite frequent occurrence, affords sufficient apology for this paper.

It is not necessary in this paper to enter into a minute anatomical description of the femur. The location, length, size, anatomical and surgical necks, prominences and protuberances need only be mentioned.

The fact that the femur is a long shaft, with a ball and socket joint at the hip, allowing motion in all directions and acted upon by the muscles most of whose origins are above the joint and whose attachments are placed at various points on the surface of this bone and the bones articulating at the knee, accounts for the various deformities that take place as the site of the fracture varies, and is also the source of the difficulty arising when an attempt is made to place the segments of bone at perfect rest. The muscular traction is, of course, the same in both directions, the part of least resistance being drawn toward the point of greatest resistance.

* Read before the Academy of Medicine, of Louisville, Ky., Jan. 4th, 1

When a fracture takes place at the neck or shaft of the femur all the leg below the site of the fracture is drawn towards the pelvis, the twist or rotation being due to the different strength of the various muscles and to the weight of the leg. The proximal end of bone acted upon by a smaller group of muscles takes up a position the resultant of the pull of the group acting upon that part.

The object in the treatment of these fractures is to overcome the pull of these muscles and, after placing the bones in apposition to make fixation as perfect as possible, the difficulty of which is augmented by the nature of the joint, and that the disposition of these muscles are such as to be hard to control.

The causes of fracture of the femur vary with the site of the fracture and the age of the patient. Fractures of the upper extremity of the bone are nearly always due to an indirect violence, except in the young when it is very much more apt to be from direct violence, while those fractures of the upper extremity of the bone are frequently, when in the aged, from a rather trivial cause.

Fractures of the lower extremity of the bone are due to direct violence, while the fractures occurring in the center of the shaft may be due to either cause.

These cases are usually first seen when at a distance from home and where the facilities for a thorough examination and proper treatment are inadequate, but the history of the causes leading up to the accident, the pain, the position of the limb and the general appearances are sufficient to give a general idea of the gravity of the injury and to suggest the measures best adapted to the support of the leg while en route home where a more careful examination can be made. After the patient has reached home and the clothing removed a thorough examination can be undertaken. The patient should be placed, preferably on a table, padded by a quilt or comfort, both on account of the smooth surface and because the height will allow an easier examination. The legs should either be brought together in the axis of the body or be placed in as symmetrical a position as possible. Inspection will sometimes reveal an evident shortening. Measurements should be taken from the anterior superior spines of the illia to the internal malleoli on each leg and then compared. If the fracture is in the shaft of the bone it can usually be detected almost at a glance by the position of the limb and by the deformity; the latter differing, of course, with the site of fracture.

Should the site of the fracture be the upper part of the shaft the knee will be slightly flexed and the foot rotated inwards; the proximal end of the bone will be somewhat abducted in cases of complete fracture and the deformity will usually be evident by inspection. Palpation will, however, reveal mobility and crepitus. The mobility will be more plainly revealed by manipulation but care must be exercised so as not to push the end of one of the fragments through the skin and thus form a

compound fracture, as fractures of the shaft are usually more or less spiral. The displacement of fractures of the upper part of the shaft are usually outward, owing to the pull of the glutii, the psoas, etc., on the proximal end, while fractures of the distal end of the femur have a backward deformity owing to the pull of the gastrocnemius muscle of the lower fragment, the end of lower piece being felt in the popliteal space (the quadriceps extensor and the sartorius exerting their influence, pull the joint upwards towards the pelvis.)

Pain as a diagnostic symptom is, of course, of the greatest importance, being intensified by manipulation of the parts and by its always being referred to the site of the injury. Occasionally where the pain is so great as to cause a tonic spasm of the muscles, an anesthetic must be administered in order to elicit mobility or crepitus, but even greater care should be exercised in manipulations under anesthetic than otherwise for fear of injury to soft structures. Faintness is a very usual occurrence in a fracture of a bone anywhere.

Fracture of the neck of the femur is of more difficult diagnosis on account of more inaccessibility of the bone and because of the liability of an impaction disguising some of the symptoms, and because if there is an impacted fracture, as much care as possible should be taken to avoid the making of it an unimpacted fracture. If the fracture is unimpacted there is rotation of the part outwards. With impaction of the anterior portion of the neck there is inward rotation, and with impaction of the posterior portion, outward rotation. In addition to the measurement from the spine of the ilium to the internal malleolus, measurements should also be taken to see whether or not the trochanter major is above Nelaton's line, and of the tibiæ in order to discover if there is any difference of length there. Inspection will reveal a relaxation of the facia from the crest of the ilium to the trochanter. Palpation with manipulation will discover mobility and crepitus in unimpacted cases, but in order for this to be satisfactorily done an intelligent assistant must assist in manipulating the leg. Whether the fracture here is intracapsular, extra-capsular or mixed, makes no difference in the treatment.

Doubtful cases where pain, history or injury and loss of mobility are present, but where other positive proofs of fracture are absent, should always be treated for fracture. Impacted cases, where impacted in the anterior or posterior part of the neck, causing a rotation inward or outward, respectively, should bring to mind the possibility of a dislocation of the hip. An inward rotation of the leg indicates dislocation of the hip forward, and an outward rotation of the leg indicates a backward dislocation on the dorsum of the ilium. An examination of the head of the femur with regard to the acetabulum will reveal the truth or falsity of the conjecture.

A guarded prognosis should be given in every case as to the functional recovery of the limb; the older the patient the less can be promised,

while in the aged a very grave prognosis should always be given. Fracture of the shaft of the femur in a patient over fifty-five or sixty nearly always leaves something to remind him or her of the injury, even when there is a good bony union. Fractures of the neck promise less than those of the shaft, and in the aged may often cause death from shock or from hypostatic pneumonia; or, if they escape this, later still from exhaustion. In more favorable cases one may obtain perfect results, but it is just as well to promise less and it may prevent considerable annoyance to the doctor.

An especially guarded prognosis should also be given in children who give a history of a jump or a fall on the feet or knees from a considerable height, and who, as far as the symptoms go, have only sustained a strain of the hip. These patients will only be confined to bed for a short time, and there may be a slight eversion and limp. The probability is that there is an impacted fracture which may recover temporarily and show symptoms of coxa vara.

It is almost needless to say that the prognosis in these fractures, wherever situated, are, of course, modified by the extent of the injury, whether simple, compound or comminuted. The older patients are almost sure to have some shortening of the leg, which is generally more pronounced in fractures at the neck of the bone. If the shortening is less than an inch and a half the results are very good.

As to treatment, I believe that for a child under eight or ten years of age, nothing can be better than the plaster cast with the spica over the hip and carried quite high on the body. The difficulty of keeping these little patients quiet and the need of a permanent dressing makes this form of dressing most admirable. Reduction of the fracture must be made under an anesthetic, and firm traction made on the leg by an assistant while the bandage is being applied, which traction must be kept up until the bandage has fairly well hardened. With a child of this age there is then very little trouble; the weight allows of their being easily lifted and attended to while the plaster prevents much turning about. If the patient is very young and there is danger of the bandage being wet by urination, it may be coated with shellac or rubber. There is not much danger from swelling in these cases if plenty of cotton is used to pad with; however, the circulation in the toes should be watched for a couple of days. Compound fractures offer more difficulties, but can be dressed through a window cut in the plaster. Gauze, cotton and a bandage will equalize pressure.

Proper attention should be given to the bowels and diet. After three weeks the bandage may be removed and a lighter one applied, or a wire splint instead. If the child is old enough to make use of crutches, it may be allowed to be up and about by the end of the fourth week, with a high-sole shoe on the sound foot.

On older patients I believe it is better to place a temporary dressing

for from twelve to twenty-four hours, when the accident is the result of direct violence. In hip joint fractures the sooner it is in a permanent dressing the better.

A very good temporary dressing for shaft fractures, except of the lower third, is made of two boards, four or five inches wide; one placed on the outside of the leg and extending from the axila to five or six inches beyond the heel, and the other on the inside from the groin to the internal malleolus. Pad the long splint at the axila with a towel and both splints with cotton, re-enforced when needed to equalize the pressure. Have the end of the long splint below the heel cut so as to leave a narrow end with shoulders. Place a piece of adhesive strip long enough to extend from site of fracture on the inside down the leg and back again on the outer side to the same height as the starting-point, leaving a loop under the foot. Place another strip of adhesive face to face with the first in this open space under the foot and have it long enough to reach above each malleolus, so that the plaster will not stick to the foot or either malleolus. Place another strip of adhesive plaster around the thorax to fix the upper end of the long splint. Apply bandage, securing the leg with the splints. Slip a piece of bandage through the loop, make traction and tie it to the projection below the heel. This dressing may be changed in twenty-four hours to the permanent dressing decided upon.

Where the fracture is at the lower end of the femur the splint must be placed on the flexor side of the leg and padded so as to hold the parts in apposition until a permanent dressing can be applied, in which case a double inclined plane, with a foot-piece holding the foot at right angles with the leg, the padding being re-enforced in the popliteal space, is I believe the best dressing.

From the age of puberty to middle life, probably no dressing is more efficient than a modified Buck's extension apparatus with pulleys and a weight, but I think that in patients who are neither heavy nor very muscular a plaster cast is good. When the patients are heavy and muscular they are more apt to break the plaster where the spica crosses over the groin. If the plaster is re-enforced here by some other substance it adds to the efficiency of the dressing, but in muscular patients the extension treatment must be the one used. After about four weeks the character of the dressing can be changed, but the patient should put no weight on that leg until after the expiration of eight or ten weeks or longer, according to severity.

In old age we are frequently confronted with the restlessness of childhood, complicated with the necessity of getting the patient out of bed as soon as possible. In the very old everything frequently has to be sacrificed to this necessity. Beyond fifty-five years of age a fracture of the neck of the femur often causes death by the shock. Too long confinement on the back renders the patient liable to an attack of hypostatic

pneumonia. In some cases which I have seen the lungs have been kept in good condition by having the patient resort to deep breathing several times daily.

I believe the plaster dressing is better adapted to the aged than the extension apparatus, because it admits of more freedom of movement. In shaft fractures this dressing may be changed in two weeks to the double inclined plane, re-enforced on extensor and outside of leg by a splint made of strips of wood as long as the shaft of the femur and sewed in a piece of cotton cloth, padded and applied with bandage. They should be propped up in bed and in another week may be lifted out of bed to sit a few minutes in a chair. By the end of the fifth week the inclined plane may be discontinued and a leather cast moulded to the leg. Fractures at the neck should be kept in bed as long as possible, unless there is some signs of distress, but they should be allowed to be propped up as soon as it is possible.

In old men suffering from prostatic troubles there will often be retention and the catheter will have to be resorted to until the patient is up and about.

Firm measures have to be resorted to in some of these old patients, who, although they have gotten good union, lose their grit, as it were, and grow more and more helpless. Unless these patients are forced to get up they will die.

In these old fellows especial attention should be paid to the bowels, the diet and to the reaction of the urine, and any trouble corrected as soon as possible.

DISCUSSION.

DR. WM. A. KELLAR: I believe that good results are always obtained in cases of fracture of the femur when handled along the lines suggested by Dr. Jacob in his paper. I saw a patient about two weeks ago, a very fleshy man, about sixty years of age, who was treated in this city and who is now getting along very nicely.

DR. F. T. FORT: Fracture of the femur is a subject in which I am very much interested, and also one in which I have had some experience.

I believe that every case of this nature should be treated as an individual one; separate and distinct from all others.

In regard to the reduction of the fracture, the patient should always be anesthetized. The operator should grasp the leg above the knee, preferably with the right hand, with the left hand around the ankle, and make firm traction, while an assistant should grasp the limb just below the groin and make counter traction. When the limb is in perfect position, place coaptation splints fastened with adhesive plaster around limb, and put on the posterior splint; a straight or slightly curved board well padded with extra pad just under the knee; then put on a splint reaching from the axilla to three or four inches beyond the foot, with a cross-

piece, making a T splint, which prevents turning of the foot. In addition to this an internal splint can be put on, and around all this place a bandage. If it cannot be kept in place without some extension, weigh, as it were, the amount of extension you will need, and place adhesive plaster on in such a way as not to interfere with the bandage around the foot. To do this, begin at toes with bandage and carry bandage just above malleoli, then bring your adhesive strips down either side of leg, then wrap over adhesive strip bandage you had brought up from toes.

To prevent pressure on the malleoli, get a block of wood three or four inches wide, fix in end of adhesive strips, and make a hole in it, attach cord with weight to block. In this way you can make the extension from five to twenty pounds, according to the amount of resistance to be overcome. Then elevate the bed, which brings about counter-extension.

I do not believe there is any better treatment for compound fractures than two sand-bags, one reaching from the arm-pit to below the foot, and the other from the crotch to the foot, with two or three bandages around the sand-bags holding them in place. This admits of the injury being dressed every day.

I recall the case of a colored man who was run over by a coal-cart, about the juncture of middle and lower third of femur. None of the arteries were damaged, and after about six or eight months of the treatment described above he had a good leg, there being only about a half-inch or an inch of shortening.

In fractures of the lower third, I believe the double inclined plane is the most practical treatment, because the muscles tend to pull the lower fragment backwards, which endangers the vitality of the arteries, and where the pull is too great tenotome, or division of muscle has to be done. This very rarely happens, however, when the limb is dressed in the double inclined plane. I think Dr. Jacob stated that in fractures just below the great trochanter the muscles pull outward, but I am inclined to believe that they are pulled upward by the iliacus and psoas muscles, and this resistance is best overcome by the use of the double inclined plane.

In the treatment of these fractures in children, I think the best results are obtained from plaster of paris. I have had several cases of fracture of the middle third in children, and in no case have I used anything else. I recall a case I saw two or three years ago, that of a boy about five years of age, who had sustained a fracture of this nature. I dressed his limb in plaster of paris, which he took off at the end of the second week. He had perfect results. Another case was that of a little boy down town. I chloroformed him myself and dressed the limb in plaster of paris. Six months after he was injured the callous had become absorbed, and I do not believe anyone could tell just where the fracture occurred.

In old people the fracture should be given secondary consideration, the general health of the patient being our first care. I recall the case

of an old lady whom I saw with Dr. Speidel. She had an impacted fracture of the hip. We had her taken out of bed and placed in a chair for a little while every day. She recovered from the fracture in about ten weeks, but on her first trip out she walked about four or five squares, contracted pneumonia, and died about a week later. I treated another old lady in the country in about the same manner, and she recovered from a fracture. As I have already stated, the fracture should receive secondary consideration in elder people.

DR. O. E. BLOCH: I wish to reiterate what Dr. Fort has said; namely, that every case of fracture of the femur should be treated as an individual one. I also wish to indorse his idea of the treatment of these cases. I remember the case of a very heavy woman who had sustained a fracture of the hip-joint. The limb was dressed in plaster of paris, but the patient could not be kept comfortable. This dressing was taken off, and a Buck's extension with about ten pounds weight put on. She recovered without any shortening at all.

A good treatment for fractures in children is to dress the limb with a modification of Buck's extension, suspending the weight from the ceiling or a higher part of the bed in such a manner that with each movement of the limb the weight will make a corresponding movement.

The paper was very interesting, and I was very glad to have heard it.

DR. JAS. B. BULLITT: The question of fractures of the femur is always an interesting and important one, and, in my opinion, is sometimes a very diffiult one. I have frequently said, and say again, that I believe the treatment of fractures is the most difficult work a surgeon is called upon to do, although with improved methods he is sometimes able to obtain very good results.

My experience with the X-rays has taught me that so-called reduction of fracture is ordinarily a fallacy; that is, where there is a complete fracture. I have a case of fracture of the shaft of the femur now under treatment, in which the leg apparently is in a beautiful condition, and the patient seems to be getting along better than any case of a similar nature I have ever had; yet when I examined the limb with the X-rays day before yesterday I found that the ends of the bone overlapped. There is some shortening, but I have no doubt that almost perfect functional result will be obtained. If I had not examined the limb with the X-rays, I might have remained firm in the belief that the two ends of that bone were against each other. I was formerly of the opinion that this could be accomplished, but since I have been using the X-rays I have been led to believe that it is almost impossible in cases of fracture of a bone with such a thick pad over it as the femur; and, in fact, it is not essential that the two ends should be squarely together if practical functional results can be obtained. It has always appeared to me very similar to putting a broken stick in the middle of a feather-bed, and then endeavoring by manipulation to place the broken ends together perfectly.

The plan of treatment outlined by Dr. Jacob is a very good one, but I do not favor the expression used by one of the speakers that each case should be treated as an individual one. These cases are all very similar, and the difference, if there is any, is in the patients, not in the fractures; that is, some of them are fleshy and some are thin; some are old and others young, and this fact does often necessitate a difference in the treatment. The surgeon should bear certain established methods in mind, however, and not trust too much to hard common sense. I believe that in the treatment of fractures anatomical conditions are of great importance.

I remember hearing Dr. Wyeth, of New York, describe his treatment of a child who had sustained a fracture of the thigh during birth. He told us afterward that the child was his own and that he had been very much puzzled to know exactly what to do. He finally concluded that the best plan would be to place the child in the position in which it had been in the uterus of the mother and to cross its limbs the way they had been before and so fix them with bandages. He said the child was not inconvenienced a particle and finally recovered. He showed us the child (a boy) and it seemed to be in as good condition as any child I have ever seen. This would seem to be the only possible and practical treatment of fracture of the femur in the newborn.

DR. HUGH N. LEAVELL: I wish to say a few words in regard to a method of treating cases of fracture of the femur in infants, which I saw applied at the Boston Infant Asylum, consisting of a Buck's extension and small pieces of board from three-eighths to one-half of an inch wide applied over adhesive plaster wrapped around the limb, having previously encased the limb in absorbent cotton and bandage. The Buck's extension was placed at right angles with the body elevating the leg to a vertical position. This dressing enabled the nurse to raise the child and attend to it very nicely so far as the bowels and urine were concerned. The results obtained seemed to be very good. I saw several patients who had so far recovered as to be able to walk about the hospital grounds; they did not have any limp, and the measurements were about as good as could be expected after having sustained a fracture of the femur.

DR. IRVIN ABELL: It is almost impossible, in so limited a discussion, to take up the numerous interesting phases of the subject of fracture of the femur. It has been disputed by some authorities that bony union ever follows fracture of the neck, but three years ago I had under observation a case which demonstrated conclusively that it does occur. The patient, a man well above sixty years of age, suffered a fracture of the neck of the femur through a fall from a porch; he was treated by the extension method and in due time was able to be about on crutches, the union seeming firm; dying suddenly of cardiac failure, examination of the femoral neck showed that true bony union had occurred. Personally, I prefer Buck's extension in each and every case, whether the fracture be

transverse or oblique, if the site of the fracture is above the condyles. In a muscular individual, even with the patient under a general anæsthetic, it is practically impossible to tell when the fragments are in exact apposition; this statement is borne out by numerous radiographs; consequently the ideal treatment seems to me to be the one which will overcome the spasm of the thigh muscles and at the same time tend to bring the fragments into line continually; no other plan of treatment seems to do this so well as the continuous extension. Plaster of paris frequently fails to overcome the spasm of the thigh muscles and as a result union with shortening is seen. We may confidently expect less shortening with the continuous extension than with the plaster dressing.

In the aged the fracture often becomes a matter of secondary importance in our effort to save life; sand bags, with or without extension as the general condition of the patient permits, furnishes satisfactory treatment; close confinement they will not bear and that dressing permitting the greatest change of position and motion is to be employed.

DR. J. K. FREEMAN: I do not feel that I can add much to what has already been said on the subject of fracture of the femur.

The point in the discussion which impressed me more forcibly than anything else was that brought out by Dr. Bullitt; namely, that the best results are obtained in cases where the patient is allowed some freedom of movement. Perhaps we have been in the habit of keeping these fractures too still. Did it ever occur to you that in cases where ligamentous union is obtained, if the dressing was changed and the patient allowed some mobility, bony union would result? I believe that slight motion stimulates the deposit of earthy material, resulting in more perfect bony union.

In fractures of the femur in old persons I have frequently used two or three kinds of dressings on the same patient; first Buck's extension, then plaster of paris and extension, and finally wind up with plaster dressing. It has been my experience in treating these old persons that the greatest amount of depression occurs about the second or third week, at which time they should be gotten out of bed and moved around, even at the risk of sacrificing the length of the limb. Some time ago I was called to see a woman about fifty years of age with a fracture of the upper portion of the femur. After about two or three weeks of confinement the heart action began to get very bad, the kidneys became sluggish and the urine showed albumen and casts. I put on a plaster of paris dressing, and had her gotten out of bed and moved around with the aid of crutches; she is still hobbling about and there is only about two inches of shortening, but a good bony union. Whenever the heart gets weak and the kidneys perform their function badly it is time to get these patients up and moving about.

I believe, in the treatment of fractures of the femur, we should bring our ingenuity and common sense into play, as well as our knowledge of anatomy and surgery.

DR. DONALD R. JACOB: I agree with Dr. Abell as to the treatment of muscular patients with Buck's extension. The patient in the case I saw with Dr. Keller was about seventy-six years of age. We dressed his limb in plaster of paris, but at the end of the second week removed it and put on a double inclined plane. At the end of the fourth week we took the double inclined plane off and put on a leather. About this time the patient seemed to give up and we had to force him to get up and move about; now he is doing very well. He was a very large and heavy man but not very muscular.

I have never seen the pneumatic ambulatory splint, but from what I have read of it I believe it is one of the best methods of treatment we have. In the first place it is adjustable, and can be made to fit any size limb; then there is a shoe in which the foot is placed and fastened, and the patient may be allowed to go on crutches at the ene of a week or ten days. I believe any case of fracture of the femur will heal very much quicker under this method of treatment.

I am obliged to those present for the discussion of the paper.

SCARLATINAL SUPPRESSION IN RELATION TO UREMIC CONVULSIONS.*

BY HUGH N. LEAVELL, M. D.

THE litature on scarlatinal suppression and suppression of urine due to other causes is limited. I do not wish to be put in the attitude of adding anything new to the subject, for I feel with the limited experience I have had it could not be conclusive. But I wish to ask a few questions which may provoke investigation.

First—Why is it that toxic symptoms do not develop from every case of suppression of urine?

Second—Why is it that convulsions do not always occur in uremic conditions?

Third—Why do we have excessive urination in some cases accompanied by uremic convulsions, or slight passage of urine without convulsions?

In regard to the first question Osler says, there may be very little discomfort and the symptoms very unlike those of ordinary uremia. Convulsions occurred in only five of forty-one cases of suppression reported by Hurter, headache in six and vomiting in only twelve. A patient may live from ten days to two weeks with complete suppression. This would lead us to believe that uremia is not necessarily due to suppression of the urine *per se*.

Bouchard has said that the toxity of the urine is independent of its concentration, and he has eliminated seven different products from healthy

* Read before the Louisville Clinical Society, Jan. 24, 1905.

urine which assert their toxity in different ways when injected into the blood of healthy animals. He has been able to prove conclusively that uremic intoxication is not due to urea, but that this substance has a tendency to stimulate the kidney epithelium and increase diuresis. One of the poisons which he has been able to eliminate produces myosis, another convulsions, another headache and still another vomiting, so that it does not necessarily follow that the retention of the urinary products in the system will produce only a certain train of symptoms which we designate uremia, for this term in itself merely means an increased amount of urine in the blood and the toxicity of this will depend mainly upon which one of these toxic products is retained in the system.

When we take into consideration the urine which is passed by a certain individual, we must take into account two distinct processes which occur in the kidney ; one, which is direct filtration, is dependent upon the blood pressure alone, and the other, the kidney secreting apparatus, which is resident in the uriniferous tubules. The kidneys like all other organs in a measure regulate their own blood. When active they contain a good deal of blood and when inactive they are bloodless, and it can certainly be stated with positiveness that no organ devoid of blood can secrete. This may account for the lack of elimination of solids which we find occurs in kidney inflammations. When a large quantity of urinable substances is sent to the kidney, a congestion of the kidneys quickly follows. We might be led to infer from this that in some cases urinable substances are not sent to the kidney epithelium in sufficient quantities to provoke their secreting apparatus to action. Flexner has been able to demonstrate pretty conclusively that many kidney inflammations have their origin in bacteria, the colon bacillus being the chief. While the infective germ of scarlet fever has not been isolated, it can be stated with rather positive assurance that it is bacillary in origin. Could it be true that this bacillus when eliminated by the kidney sets up an inflammation of an exudative type in some instances, or may prove toxic to the circulatory apparatus in the kidney, thereby causing anemia of the kidney, which of course interferes with its epithelial cell activity, lessening or entirely suppressing the flow of urine? We can assert positively that it is not due to a nervous disturbance in the kidney for we know that the kidney epithelium itself does not depend upon the nervous system for its secretory function, but that it depends entirely upon the circulation of the blood which is regulated by the vasomotor system.

I wish in this connection to report a case of scarlatinal suppression seen recently with entire absence of the symptoms of uremic convulsions. The case was one of the so-called mild type of scarlet fever and was seen in its incipiency by one of our Homœpathic friends. This patient was allowed to go from her room through a cold hall to the bath room which was superheated with natural gas, to take a bathe, two weeks after the onset of the disease and during the stage of desquamation. Two days

afterward she began to urinate excessively; the urine was not highly colored and evidently of low specific gravity judging from the report which I got from the nurse. About two days after that I was called to see the case and found the following symptoms: Almost entire suppression of the urine, patient thoroughly conscious, dyspnœa, edema of the lungs, no swelling of the extremities, restlessness but no delirium, pupils normal, no muscular twitchings, but inability to sleep, due in a great measure, I think, to the difficulty in breathing. Owing to the fact that she had some secretion of urine, I put her on diuretic mixtures hoping thereby to stimulate the kidney epithelium to action, at the same time ordering hot packs and bottles to be placed in the bed hoping thereby to increase the activity of the skin; I also ordered a purgative hoping thereby to carry off some toxic products in that way. The bowels acted freely, watery discharges with no alleviation of the symptoms. On the night of the next day I began the use of hypodermoclysis and enteroclysis with normal saline solution. This proved ineffective; the pulse then being of high tension I thought it justifiable to use blood-letting and evacuated a pint and a half of blood from her veins with the result of decrease of the dyspnœa and a lessening of the arterial tension. This measure proved ineffective, the patient dying the following morning, after having had suppression of the urine for three days. There was no evidence in this case of any tendency to convulsions or any of the symptoms of urinary toxemia, the patient dying of edema of the lungs.

The conclusions which might be drawn from the report of this case are:

First—That suppression of the urine in itself may not be death producing, but that death ensues from other causes, or most likely from the cause which in itself produced suppression.

Second—The ineffectiveness of any method to start the activity of the kidneys. Might it not have been in this case that the bacterial element which caused the suppression of the urine and which caused the scarlet fever, caused the death of the patient?

A German authority has recently reported over 200 cases of scarlet fever treated by the use of urotropin. In all of these cases albumen was not found in the urine, and in no case was there any kidney inflammation. We know that eurotropin is a urinary antiseptic and possibly on this account the scarlatinal poison did not have a chance to gain a foothold on the kidney epithelium. We all know that it is the rule to find albumen in the urine at some stage of the disease, and the absence of this in these cases reported by this authority must carry some weight. I have recently had the opportunity to verify this report, having used urotropin in several cases of scarlet fever. I looked carefully for albumen but in no case was I able to find it. Of course we know that in some cases of nephritis albumen is absent, but in the variety which is caused by scarlet fever it is the rule rather than the exception for albumen to be present.

DISCUSSION.

DR. WEIDNER: I enjoyed the paper very much. The same questions that are put in the paper have confronted me on repeated occasions. I recall an instance in our lamented *confrere*, Dr. Leber, in his last illness. The doctor passed, during the last five days of life, not more than possibly twenty ounces of urine; I will say not over a pint in the last five days, and there were practically no uremic symptoms. He was conscious, there was no twitching of the muscles, no vomiting, and his sleep was not disturbed; this case was not due to an intoxication but to depression of the circulatory apparatus. I have seen other cases and have asked the question, "Why should they not have uremia?" We will not be able to solve the question to-night. There must be a difference in the toxines. The pathology of the different conditions might explain this. The scarlatinal nephritis and the cause of the diminution of the urine is in most instances I think pretty plain. We have two forms; one may come on during the course of the disease; we have another form that appears many weeks afterward, when the patient has apparently recovered, and these cases may become chronic in character. I recall an instance in this connection where a family of children had scarlet fever, where two or three of the children were dropsical and a urinary examination showed that they had a nephritis, and the history was simply this, that six weeks before that there were other cases in the neighborhood; the disease was overlooked and no physician called.

In the early cases the inflammation is accompanied by a good deal of swelling of the interstitial tissue and a great deal of formation of new cells in Bowman's capsule. An examination of cases of this sort would show a proliferation of the lining of Bowman's capsule and leucocytes filling almost the entire space, so that it give rise to occlusion and inability of the urine to pass, causing pressure upon the vessels in the glomerulus cutting off the blood supply. In other cases the kidneys become so congested that the venous pressure causes such swelling of the capsule and raises the blood pressure as might be produced by tieing the renal vein. But in this case the pressure becomes so great that the pressure of the venous blood will exclude the spaces in the Malphigian body.

The Doctor has given us a good example of trying everything. He did not tell us what diuretics he used. Doubtless he tried those that act upon the secretory epithelium of the kidneys. The function of the kidneys is an important one, and hard to restore.

DR. BAILEY: I would like to speak of a remedy that came into my hands as a diuretic in the last year. I appreciated the paper very much. There were many points of interest brought out, and I want to speak on this question of uremia. I think it is a difficult thing to say in these cases whether it is uremia or whether we have a failure of the kidney. Perhaps the injection of urea into the blood would not bring about always

the symptoms we call uremia. I believe that the term is used to express a deficient elimination on the part of the kidney, whether it be due to urine in the blood characterizing this name or not. The organ is simply one for elimination, and it may fail to do this without showing it. I would say that in surgical and medical cases, where there is an inadequacy of the kidney it handicaps the cases very much.

Dr. Rodman referred to the work of Dr. Hunter McGuire; I recall that it was my pleasure to ride fifteen or twenty miles through the mountains of Virginia with McGuire, and he spoke of surgery being handicapped by this fact. In many cases he turned patients away from the hospital without operation when he found deficient elimination of the kidneys. We cannot always tell the product that the kidney fails to eliminate. It may be one and it may be another one, and we call it uremia when we get these manifestations, and urea may not be a factor in its production.

I want to speak of uremia in other conditions not in connection with scarlet fever, as Bright's disease and organic valvular lesions, in which I have seen some very active results from the active principle of tea, theine. I will refer to one case illustrating its use. The patient was dropsical—there was general anasarca; she had not been in bed for ten days; the urine was of low specific gravity and contained albumen. This case was not relieved by the use of the infusion of digitalis and acetate of potash, and, seeing some notice of theine, the active principal of tea, I gave it in five-grain doses four times a day for about forty-eight hours. I went back; the woman had not been in bed for ten days; there was so much anasarca causing dyspnœa, and I found her lying in the bed comfortable without any appearance of dropsy at all. In the forty-eight hours the woman had passed three gallons and a half of urine under the theine. I did not wonder that it had relieved the anasarca. Where digitalis and other remedies fail, try it.

DR. LEAVELL (*closing*): We have uremia resulting from a stone in one kidney, and too much work required of the other kidney. Dr. Rodman has an instrument for the catheterization of the ureters and it is new, and it will be interesting to present it. (See page 181).

DIGITALIS IN HEART DISEASE.

BY M. M. PEARSON, M. D.

POSSIBLY no drug has been the subject of more discussion or painstaking investigation than digitalis. Animal experiment has been employed to furnish a correct scientific basis, and from this many important deductions have been drawn which have advanced our knowledge along certain lines; but it is not to be depended upon except it be

verified by bedside experience. It has been shown, both in the animal and man, that this drug is peculiarly unreliable both in preparation and in effect. The latter is no doubt due to its complex and powerful action. That it is capable under selected conditions of doing much good is granted. But we should ever keep in mind a fact recognized by most cliuicians, and that is, that its effect in the sick and the well, and even in the same subject under different circumstances is so directly opposite as to always put us on our guard. We know of no method of determining the individual peculiarity which certainly exists in a few cases. Nevertheless, there is one thing imperative in the administration of the drug, but not exceptional; and that is an exact understandiug of the etiological, pathological and anatomical conditions present. This knowledge furnishes us with the indications and contra-indications in disease of the heart. Many of us are content to know that a lesion is organic and valvular, without seeking to know which valve, and the etiological factor underlying the condition. We can determine, in almost every case, two general classes which are of the greatest practical importance, and these are inflammatory from some infection, such as rheumatism, scarlet fever, etc., or degenerative, as in syphilis or alcoholism. Both therapy and prognosis are dependent upon this knowledge.

Broadly speaking, in the minds of the profession, digitalis and heart disease are so intimately associated that the drug is indiscriminately prescribed regardless of stage, lesion or etiology. I wish to emphasize the fact that digitalis is no remedy nor possessed of a single curative property in disease of the heart, and should never be given so long as compensation is maintained and always abandoned so soon as this is restored. If continued thereafter it will not only do no good, but actual damage, and cause a return of symptoms in an aggravated form for which it was originally prescribed.

In the purely functional disturbances it rarely does good, although it is recommended by some authors. In that common form of tachycardia, so often associated with nervous dyspepsia, it not only, as a rule, does no good, but the functional disturbance is aggravated as is the dyspepsia.

The trouble after all is not so much the drug as the purely empirical use of the drug. We may go on what we call experience, but is an experience based upon surface indications. I can best illustrate this and at the same time approach my subject by a picture not altogether imaginary.

"A patient sitting up in bed gasping for air, speaking in monosyllables and gestures imploring relief, coughing, expectorating bloody-stained sputum, slightly delirious, edematous, ascitic; in short, a picture of cardiac dilatation with lost compensation." For agony of body and distress of mind, this is a picture without a parallel in human suffering. It is not unfamiliar or infrequent. Without stopping to consider the

various conditions producing dilatation as in the case before us, we resort to digitalis because we can possibly recall a certain case presenting to us as a mere casual observer, symptoms identical, relieved by digitalis; but this time we fail for the reason that our knowledge is insufficient for an intelligent management of the case. At this time an injudicious dose of digitalis may cause an alarming and even fatal results for reasons which will be advanced. There is no such thing as a rational therapy in the case before us, except it is based upon an exact understanding of the diseased condition. This implies, as you may say, a knowledge almost universal, and this I grant you; and in furnishing some works of reference I commend to you authors of your own selection upon the following branches in order of importance: Anatomy, physiology, pathology, therapeutics (physiological), special works on the heart and clinical medicine. A familiarity with these with common sense and a knowledge of dynamics you are in a position to approach the subject. Having thus briefly indicated the importance of certain facts, fundamental, we come to consider the case in reference to location.

We naturally inquire whether or not this is the sequence of a primary incompetent valve lesion, ending in tricuspid insufficiency of relative origin, its degree and its possibilities? Is it a mitral stenosis terminating in the same way? Or, is it rare but truly a tricuspid induced by emphysema, asthma or some obstruction in the pulmonary circulation? Is it the last phase of an interstitial nephritis, with or without a general arterio-sclerosis, which has induced an extreme degree of hypertrophy of the left ventricle with dilatation so extreme as to separate the mitral flaps, thereby causing incompetency at the orifice, eventually leading to the same train of symptoms as a primary lesion, but with a more grave prognosis? Or, is it aortic regurgitation, with a degree of hypertrophy of the left ventricle obtaining with dilatation to such a degree as to render the mitral incompetent with all that this implies? In each of these, while combining to produce a symptom complex, and at certain stages very much the same and in all dilatation of the right ventricle, can it be relieved in the same way? Is it reasonable to suppose that a drug which increases the ventricular systole by inhibition and direct stimulation of the cardiac muscle is capable of being equally beneficial in the different varieties of dilatation that I have enumerated? The effects of the drug is very special, while the cause of dilatation is variable.

"Historically, digitalis was given its name by Fuchs in the middle of the fifteenth century. A treatise on digitalis, likewise in 1857, and soon after this time Pickering recommended it externally for scrofulous sores and internally for "the falling sickness." Its introduction into modern medicine probably dates from 1776-1797. This was effected by Withering, and since that time it has been in general use."—*Foster.*

Although there are several preparations of the drug for practical use, three only need concern us. Digitaline, one of the five active principles

of the drug for hypodermatic purposes, which more nearly than any of the others, represent the effects of the drug—the tincture and the infusion.

It is a cardiac tonic, vascular stimulant, excito-motor, also a diuretic, emetic, hemostatic, aphrodisiac and paralyzant. The heart is slowed, but at the same time its force is increased. The drug stimulates the cardiac muscle and its inhibitory apparatus; also the vaso-motor centers, contracting the arterioles and thereby greatly raising arterial tension. The diuretic effect of digitalis is due to its peculiar action upon the general and renal circulation, by increasing the ventricular contraction while, at the same time, one of its constituents contract the blood vessels of the body and two others dilate the renal arteries. The effect of this combined action is to greatly raise arterial tension and the blood pressure in the glomeruli, the afferent vessels being contracted.

With this description taken from Potter's Therapeutics, we readily see that the two most important effects of digitalis is upon the heart and kidneys, and that the latter diuretic effect is due to its peculiar action upon the heart and vascular system. So that in every case where diuresis is sought the heart is of first importance.

One other effect the profession, as a whole, disregards, but is entitled to our utmost respect, and that is, that it is a paralyzant. The suddenness with which this shows itself upon the heart, as when in certain conditions the patient is allowed to raise up quickly, is mentioned by most authors, but not sufficiently impressed. This is to be remembered in every case. They take it for granted I suppose that "a hint to the wise is sufficient."

Let us now consider some of the rules that should apply in therapy. It is conceded by all authors so far as I have observed that the greatest sphere of usefulness of the drug is in lesions at the mitral valve, and in the tricuspid secondary to mitral, with venous engorgement, systemic and pulmonary with general anasarca. In mitral insufficiency it strengthens the systolic contraction of the left ventricle, and this tonic contraction causes a better approximation of the mitral flaps, at the same time increasing arterial tension, which is the greatest factor in relieving venous stasis. In mitral stenosis its effects are equally apparent and important. It prolongs diastole so that the left ventricle receives more blood, and with the increased vigor of the left ventricle more is sent through the arteries. In tricuspid regurgitation, relative to mitral, its effects are the same upon the right ventricle, but it cannot accomplish so much by reason of the thin walls and absence of muscular strength. Where the tricuspus is rendered incompetent, primarily, by some obstruction in the pulmonary circuit as from bronchitis, asthma or emphysema, even less success attains its use. Great care should attend its use as two dangers confront us. In the first place the thin, dilated walls may yield to the sudden stimulation; or should it respond the vigorous action and with

increase of volume of blood ejected into the lung may cause hemorrhage.

Another very important class of cases, especially in the middle aged and old, and that is the immense hypertrophy with dilatation of the left ventricle that occurs in interstitial nephritis with or without general arterio-sclerosis, eventually causing incompetency at the mitral orifice with its train of symptoms. To see a case in the final stage with renal, pulmonary and cardiac symptoms it is impossible and really unimportant to tell the organ primarily involved. But a physical examination will reveal the hypertrophied and dilated heart with hardened arteries. With these unyielding arteries in front, lessened in caliber and a degenerated, exhaused, in fact, rotten heart muscle behind them, what can be expected from stimulation? I believe other methods meet the indications much better than digitalis, and the reason for this belief will be adduced under the next class.

I have left the most interesting and debatable topic for the last, viz.: Aortic regurgitation. I had the privilege of hearing this discussed at Atlantic City at the last meeting of the American Medical Association, a report of which will be found in the Journal of Oct. 1st, of last year.

A paper by Dr. Frank Jones, of Memphis, Tenn., on the "Limitations of Digitalis in Mitral and Aortic Regurgitation," opened the discussion. This paper was discussed by Drs. Cabot, Tyson, Wells, and others, and to those of us who are interested in the subject will be repaid by a perusal of the Journal of that date.

Dr. Jones' conclusions are that there is but one valvular lesion in which digitalis is indicated and that is mitral regurgitation, and then only to be sure when compensation has failed. I was attracted two or three years ago to him by an article in the International Clinics, which showed him to be an authority of note.

He says: "My experience at the outdoor clinic voices the sentiment so well expressed by Broadbent." "Dropsy, however, in aortic regurgitation means a preparation for a funeral in a short while."

I can readily see why this is true. The ventricle, particularly the left, becomes hypertrophied and dilated, relaxed, wornout and degenerated to such a degree that the administration of digitalis is of no use.

To give digitalis in aortic insufficiency where we have secondary mitral leakage from ventricular dilatation, calls to mind the fable of the crawfish and the worm. They became engaged in a heated argument. Harsh words followed. They challenged each other to duel. When they met on the field of battle the worm entered a protest that the crawfish had all the advantage of him because he, the worm, could not tell which end of the crawfish to attack, because, as you know, the crawfish can move as freely backward as forward.

So it is in giving digitalis in aortic insufficiency with failing compensation. You do not know which end of the circulation the digitalis is going to attack. In aortic insufficiency with failing compensation where

the mitral valve is relatively incompetent we have leakage, both at the mitral and aortic openings. The leakage of the mitral valve spins its force backward with systole on the pulmonary veins, lungs and right heart. The backward current from the incompetent aortic valve spends its force on the left ventricle. Let me ask the authorities who contend that digitalis is as much indicated in aortic insufficiency with failing compensation as in mitral insufficiency. Does not the digitalis by its action drive as much blood back through the incompetent mitral valve as it does forward through the incompetent aortic valve? Does it not in this way increase the already stasis in the left auricle, pulmonary veins, lungs, right heart and liver? The authorities will answer by saying that digitalis will contract the ventricle, and by so doing will close the mitral valve, thus checking this backward flow, thereby relieving stasis.

Let me ask: When you close the mitral valve, do you not put too much work on the left ventricle, already over-worked from its continued efforts to come to the rescue of the incompetent aortic valve? Is there not danger by increasing this pressure within the ventricle of paralyzing the left ventricle already dilated to its utmost degree? Do you not put too much work upon it while the coronary arteries are crying for more blood to maintain nutrition in the muscle? You are giving the heart more work to do and a stone for food, while it is crying out for rest and bread.

He says further: "Dropsical symptoms in aortic insufficiency are very late manifestations. They are the expressions of a heart, tired and fagged, in its effort to relieve the incompetent valve, and in the majority of cases the dropsical manifestations have their origin in the mitral and not in the aortic valve. To give digitalis in these cases is like trying to make a wick burn when there is no oil in the lamp, or trying to make an engine pull a heavy train up grade with the brakes on with flues burnt out and no steam in the boiler. When compensation fails in the aortic insufficiency the left ventricle goes to pieces very much after the fashion of Dr. Holmes' masterpiece, "The Deacon's One Horse Shay."

Dr. Jones further fortifies his position by quotations from Dr. Babcock's and Broadbent's works on the heart. He cites the following case from Babcock: "The man had falling compensation in aortic regurgitation. Edema was not present, yet the state of the heart seemed to call for heroic doses of digitalis in the forlorn hope of lessening the dilatation of the left venticle. Instead of doing this, however, the digitalis appeared to aggravate the backward pressure, and at last death came suddenly and unexpectedly."

Dr. Osler was not present at this session, but in his work, page 732, fourth edition, you find a direct reference to this subject. He says: "The indications for its use, digitalis, is dilatation, the contraindication is a perfectly balanced compensatory hypertrophy, such as we see in all forms of valvular lesion. Broken compensation, no matter what the

valve lesion may be, is the signal for its use. The beneficial effects are best seen in mitral disease with small, irregular pulse and cardiac dropsy. Its effects are not less striking in the dilatation of the left ventricle in the failing compensation of aortic insufficiency or of arterio-sclerosis. On theoretical grounds it has been urged that its use is not so beneficial in aortic insufficiency since it prolongs the diastole and leads to greater distension. This need not be considered, and digitalis is just as serviceable in this as in any other condition associated with progressive dilatation, larger doses are often required."

15 LEE STREET, BRISTOL, TENN.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, STATED MEETING, JANUARY 3, 1905.

DR. J. R. WATHEN: This specimen that I present to-night is that of an enlarged prostate associated with calculus in a man seventy-four years of age, who for the past two or three years has had a good deal of trouble in the passage of water; he would have frequent attacks where he would be compelled to resort to the catheter.

On October 5th I removed this prostate and stone, assisted by Drs. Bullitt and Abell.

I wish to present the specimen this evening, to report the good condition of the patient, and to dwell upon the particular technique employed in the operation.

This prostate and stone were removed by the straight median incision, cutting down upon a staff and opening the urethra at the prostate, and the introduction of a new appliance known as Young's prostatic tractor, which I exhibit this evening.

This tractor is introduced into the opening in the urethra and passed through the prostate into the bladder, and then revolved in such a way as to spread the blades, and the gland can be brought down further through the perineum. The incision is made on either side of the urethra in the capsule, and the gland enucleated with the finger. Later the instrument is removed and the opening made in the urethra, and the bladder is enlarged and any foreign body removed from the bladder.

The after-treatment consists in the introduction of a drainage tube, which is fastened in the perineal wound.

As you all know as to the individual technique, there is great diversity of opinion, some preferring the perineal and others the supra-

pubic route. By the perineal method there are a number of procedures by which it can be removed. I merely report this case as illustrative of this new method of Hugh Young, of Johns-Hopkins, and I think it one of the most satisfactory for certain selected cases that we have. It simplifies the method, and allows the prostate to be brought down the same as the uterus is brought down by vulsellum forceps.

In order that you may better appreciate what I mean, I exhibit a copy of the Journal of the American Medical Association, which has an exhaustive article on this subject, and is well illustrated.

The specimens are the lobes of the prostate, the two lateral and the median lobes.

DR. WILMOTH: I congratulate Dr. Wathen upon his success in this case. I think we all have men on our hands who are consigned to a cathetar life who would be relieved, no doubt, by operative work of this kind. The operative procedure he speaks of simplifies the operation a good deal. The operation in itself in old men is a formidable one, a good deal of time is consumed, and after that it is not satisfactory, and for this reason the mortality is high, and even if they get well it is not always satisfactory. In the method he mentions the more favorable cases would be easily hulled out. I have never done the operation myself.

DR. MARSHALL: I would like to report a case of Pott's fracture, not because it is rare, but because there were some points about this case that were interesting to me; one point especially was impressed on my mind, and that is the wisdom of putting a fixed dressing on a Pott's fracture as early as possible. This is true of any fracture around the ankle.

I was called to see a case by Dr. Griffith, and found a man lying on the floor in a private residence with his shoe on and his left foot slightly everted. After removing the shoe and the sock, I found a fracture of tho fibula about three inches above its tip, and there was little or no dislocation of the ankle. With ease, I straightened the foot and put a field dressing on the foot and leg, and much against my will allowed his friends to take him home in a carriage, he holding the injured foot off the ground and hobbling along on the other foot. The next day, after removing the field dressing, and while showing Dr. Griffith the fracture of the fibula, there was marked spasm of the mucles of the calf, the gastrocnemius and soleus, and at once the os calcis was drawn upward and backward and outward, and the pronounced disfigurement of the Pott's fracture was shown. We then thought it unwise to proceed without further assistance, and we called Dr. Satterwhite, who came very promptly, and he gave chloroform for us, and had considerable difficulty in giving it; the man was a big fellow, and did not go under it well, and once or twice we thought he was relaxed sufficiently, and I at-

tempted to reduce the fracture; I reduced it and had the ankle in good position, and called Dr. Griffith's and Dr. Satterwhite's attention to the fine position, and then the spasm recurred, and there was a second displacement, the bones grating over each other so that Dr. Satterwhite, at the patient's head, heard the grating of the bones.

There was no fracture of the tibia at all that I could make out, the ligaments were simply torn loose. I reduced it the second time, and with the reduction Dr. Satterwhite pushed the anæsthetic, and, by calling a man to my assistance who was standing by to hold the ankle, I was able to keep these muscles from displacing the bones the third or fourth time.

I believe if at my first visit I had put on a fixed dressing it would not have been any trouble at all, and could have been done without an anæsthetic.

DR. SATTERWHITE: In connection with this case, when Dr. Marshall was reducing the fracture, I heard distinctly the grating of the fragments as they were going into place, just like the head of a bone going into a socket after dislocation. In the many times that I have given chloroform I have never seen such resistance to the anæsthetic. Of course, it was not necessary to keep him under the influence for a long time. We had a two-ounce bottle of chloroform, and I could not get him under the influence of it so that he could not talk intelligently. We had to send for two more ounces. I did not administer it by the drop method, but at no time was he thoroughly under the influence of the chloroform.

DR. MORRIS: This is a very interesting case. In regard to the point that the Doctor made in regard to putting on the permanent dressing, I think that depends entirely on the case—largely upon the age of the patient. It does not appear to me that putting on a permanent dressing at once is the wisest thing to do in most cases. A condition may arise soon necessitating its removal. I think the mistake the Doctor made was in allowing the friends of the patient to take him away, and probably all the trouble with the temporary dressing resulted from the patient not being put to bed and kept there.

I removed yesterday a plaster dressing that I put on eight weeks ago on an old man. I put on a temporary dressing, and left it on for ten days; I put him to bed and kept him quiet during that time.

DR. GRIFFITHS: I want to say that I have had an immense amount of experience in dressing fractures. There was no mistake in putting on the dressing at all; the great mistake was in not putting on a proper amount of cotton, and then bringing the bandages tightly around and supporting the fractured ends so as to make allowance for the shrinking that may take place in a day or two.

It has been my practice to put on plenty of cotton, and over the bat-

ting I use narrow pasteboard splints. The success is in this foundation or first dressing; then you get the plaster bandages on, and confine both joints. That is the point that most doctors omit to look after. I never have any trouble in these cases. We will allow this cast to remain on for five weeks, and will then remove and use pasteboard splints, held in place by roller bandages. I have been using plaster of paris to the exclusion of almost everything else. I rarely use anything that has been introduced since plaster of paris. The important thing is to put on plenty of cotton, firmly and tightly held by plain bandages, and then the plaster cast. I did not see the case on the day that Dr. Marshall saw it.

DR. SAMUEL: This is an interesting case, and since you introduced the subject I want to say that in your diagnosis of Pott's fracture I agree, and in your report you spoke of not being able to find a fracture of tibia. What constitutes a Pott's fracture in my mind is a fracture of the fibula for three inches above the ankle joint with rupture of the ligaments and a fracture of the inner malleolus, with outward dislocation. I want to say that I can endorse entirely what you say, that if there is one fracture in the body that ought to be put up properly at once and for good it is Pott's fracture. Many authorities have demonstrated that bad results follow this fracture, and an osteotomy or removal of the astragalus has been done for the relief of flatfoot later. If the foot is put up over-corrected, the result is far better.

I know of no better dressing than the plaster of paris cast. I believe that most people try to put on a pretty plaster of paris dressing. When it is evenly and firmly put on with the caution that Dr. Griffith has mentioned of putting on plenty of cotton, and the foot is held in an over-corrected manner and the plaster allowed to set in that way, the results have been far better than previously. I still see an occasional old Pott's fracture with flatfoot and more or less pain. I believe that your expression on that point is the proper one; a fixed dressing should be put on at once, and should be put on for good to prevent the bad end-results you get in Pott's fracture.

DR. WILMOTH: Since Dr. Samuel has brought up the question of putting on a fixed dressing immediately, I recently read an article, I do not recall the name of the man who wrote it, in which a number of cases were reported where the dressing was put on, and no attention paid to the fracture at all; the dressing was put on and fracture corrected afterward. While the fracture was being put up, he did not regard it at the time, but put on the dressing rapidly, and afterwards set the fracture, and kept the foot in the position wanted until the plaster set, and he claimed that he got most excellent results from it. Of course, that would overcome the spasm of the muscles.

DR. MARSHALL (*closing*): There are two or three points that I

would like to speak to; it was a very interesting case to me, and I experienced no little difficulty in overcoming the spasm of the muscles. A point that I would like to speak to is the use of adhesive plaster just below the site of the fracture of the fibula and going around under the instep and bringing the parts together at the internal malleolus, and then bringing the plaster up over the tibia, and in that way you would get a support that in many respects is almost as good in my hands as the plaster of paris itself. I think, in a fracture around the ankle, the only thing is to put on a fixed dressing.

In response to Dr. Morris, I have seen quite a few fractures, and my experience has been that I never regretted putting a fracture around the ankle up as soon as possible in a suitable dressing; he spoke of putting it on for ten days, and, if there was any reason for taking it off later, he took it off in ten days. If a man is not sure that the work is properly done, it should be taken off in ten days. If satisfied with the work and there is no indication for its removal, it is wise to leave it alone.

PROCEEDINGS OF THE ACADEMY OF MEDICINE.
STATED MEETING, JANUARY 4, 1905.

DR. HUGH N. LEAVELL: I have a case of uremic poisoning following scarlet fever to report to-night, the only unusual feature of the case being the method of treatment employed. The patient, a child, had been ill about two weeks when she contracted a cold and, to use a popular expression, it settled on her kidneys and resulted in almost complete suppression of the urine. When I saw her last Friday evening, I gave her diuretics, a purgative and a hypodermic injection of pilocarpin, hoping in this way to induce the kidneys to resume their normal function, but they failed to respond. A few hours later I gave her a saline infusion and saline by the rectum; this also had no effect. Some time after that I concluded it would be a good plan to bleed her. She had a high tension pulse and a good deal of dyspnea. I drew off about a pint and a half of blood, which produced quite an amelioration in the symptoms as far as the pulse and the dyspnea were concerned; the pulse came down very nicely and it was not very weak. Altogether the patient was very markedly benefited by the withdrawal of blood. I had hoped that this would establish more equality of circulation and be the means of inducing the kidneys to resume their functional activity, but this hope was not realized. About two hours later I catheterized her and found no urine. Then as it was about one o'clock and I had done everything for the patient that could be done. The child lived until the following morning about 7:30 o'clock, not having passed more than an ounce of urine for seventy-two hours prior to her death.

About forty-eight hours previous to the time the suppression of urine was noticed, the child had taken a hot bath in a heated room and had

gone from the third floor to the second through a comparatively cold hall without any wrap.

The scarlet fever, so far as I was able to ascertain, was a very mild attack, the eruption not having been very severe and no other untoward symptoms having made themseives evident, except excessive urination about ten days after the onset of the attack; the bowels had been perfectly regular throughout the course of the disease.

DR. JAS. B. BULLITT: It seems to me that any case of suppression of the urine is one of great interest, and I wish to say something, more for the purpose of eliciting further discussion, than for any other reason. There are no cases in which a physician realizes his helplessness more than in cases of this nature. If it be one of those rare cases where the surgeon's art can be applied to, where the suppression has been caused by blocking of the ureter, then, of course, operation offers a reasonable hope of relief; but if not, then the question as to the best means to be employed in order to cause the kidneys to resume their functional activity is opened. The giving of salines, which is a very common practice, is open to certain objections. The idea is that, by introducing a certain additional amount of fluid of the lowest specific gravity into the circulatory system, it will, in going through the kidneys, carry with it certain products which will result in the re-functionating of the kidneys.

Blood-letting would seem to be an extremely questionable proceeding; but as blood-letting and saline infusions are direct opposites it may be reasonable to suppose that where one fails the other might be successful.

There have been cases of suppression of the urine where, after decapsulation, both kidneys having been restored to functional activity in some mysterious manner. It is certainly very heroic treatment, yet in absolutely hopeless cases I believe it may properly be resorted to as the last resort.

DR. HUGH N. LEAVELL: The points brought out by Dr. Bullitt are precisely the ones which I had hoped would be discussed. Directly opposite methods were employed. First the volume of circulation was increased by the use af salines, after which an effort was made to reduce the tension by drawing blood; neither was effective. My object in drawing blood was to not only lessen the degree of tension, but I had hoped that by drawing that much poison from circulation the kidneys might resume their normal function. Primarily on account of some urine being excreted I thought it advisable to give something to whip up the kidneys and also prescribed pilocarpin in heroic doses; in fact, I believe the patient took one-fourth of a grain in a period of six hours, and it had no effect on the skin whatever.

I have seen very few cases of suppression of the urine, but have been disappointed in almost every case. It seems to me that very little can be done, particularly if the suppression is accompanied by diffuse nephritis, which is the kind usually associated with scarlet fever.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY.
STATED MEETING, JANUARY 24, 1905.

Dr. J. R. Wathen: This case which I report to-night is similar to one I reported at the last meeting of this society, viz.: The removal of an enlarged prostate. The man, seventy-one years of age, referred to me by Dr. Reader, of New Amsterdam, Ind., gave a history of frequent attacks of retention of urine, and when he presented himself for treatment, was wearing a urinal for incontinence. Upon examination, I found a greatly distended bladder, reaching above the umbilicus and to the lateral walls of the abdomen. After some trouble and a little hemorrhage, I was able to introduce a Mercier catheter and withdrew nearly a quart and a half of clear urine, acid in reaction. On examining, per rectum, a prostate the size of a small orange could easily be felt. I left the catheter in the bladder, placed the patient upon antiseptics, and prepared him for operation the next day.

The operation I performed was the same as I described at our last meeting, viz.: The method of Young, of Johns-Hopkins, where enucleation of the lobes is accomplished by drawing the gland down into the perineal incision with his tractor, and then splitting the capsules on either side of the urethra so as to preserve the seminal vesicles and urethra. This was easily done in the case before reported, but I found quite a difficult condition to deal with here. The gland was adherent to the capsule and very soft and fragile. I used the tractor to aid in bringing the structures in reach, and enucleated it the best I could, following the methods of Goodfellow and Parker Syms. After complete enucleation I introduced a large rubber drainage tube, and packed the gauze tightly around.

The patient left the table with a good pulse, standing the shock well, considering his age—seventy-one years.

The bladder was frequently irrigated during the next twenty-four hours, and at the end of that time the tube removed. He was able to have an action on his bowels the second day, and several clots of blood passed when he sat on the commode. Plenty of urine passed, and he seemed to progress nicely. I removed all gauze on the third day, and about the sixth day I noticed a small fecal fistula appear, which I believe was probably due to too tightly packing the gauze around the rubber tube and on the rectal wall. This condition has occurred in the work of others, and Young reports four similar cases, all of which, I believe, healed later.

On the tenth day after the operation his appetite began to fail, and he seemed to be losing his general strength. Unable to take his customary diet of soups, milk, etc., he was placed on the predigested foodstuffs and stimulants. In spite of our efforts at nourisbment and having a fair pulse, no elevation of temperature and passing plenty of urine, he

gradually weakened until, on the fifteenth day after operation, his strength having given out, he died.

As to the mortality of this operation, it varies from 11 to 2.3 in the collected statistics. There are a large number of causes assigned for death, among them uremia takes the most important place, then shock, hemorrhage, and sepsis. There are very few cases reported as dying from general debility when no one symptom can be assigned. This man was seventy-one years of age; the other man was seventy-four. I report this case to show you the bad results as well as the good results from this kind of work. I do not believe the mortality is as low as some operators state. This man, fifteen days after the operation, died of general debility.

DR. RODMAN: I am very glad to hear Dr. Wathen's report of this case of perineal prostatectomy, and I quite agree with the last statement that the speaker makes; that is, the mortality of prostatectomy is almost necessarily greater than many of the operators would have us believe. I have never been able to bring myself to believe that prostatectomy is a simple procedure, nor do I believe that the mortality is only 2 to 3 per cent.

Undoubtedly the perineal route has much to recommend it, and in America it is the favorite operation, there certainly being a greater number done by the perineal route in this country than by the supra-pubic. I think, on the whole, that it is perhaps the better operation, and yet there are cases, I am convinced, in which the supra-pubic route is better than the perineal.

I had occasion to listen to the paper of Dr. ———, of London, at the last meeting of the British Medical Association, and also to see a number of remarkable specimens that he presented there in connection with his paper. I never saw so beautiful a collection of prostates, some of enormous size, and weighing sixteen ounces, and I am quite sure that these very large prostates could have been removed by the perineal route as successfully as they were by the supra-pubic. I was told at the time I must not fail to see Dr. ———'s work. I went to London to see him operate, but it was at the close of the season, and I was not able to see any of his work.

I believe fully that this operation has come to stay, and yet I am fully persuaded that many cases will not stand either the perineal or the supra-pubic operation. I am frank to say that I am old fogy enough to say that most are better treated by the operation of Hunter McGuire, of Virginia. I think, in cases where the kidneys are damaged and there are other reasons why prostatectomy should not be done, that the operation of McGuire is usually pretty safe, and also quite satisfactory. I do not believe in the operation of ———. It does not seem to be based on sound surgical principles. I should prefer the operation of McGuire or radical prostatectomy.

Some years ago it occurred to me that the operation of McGuire, simple and safe as it is, could be made more safe by using the trocar and canula that I advised in 1899; that is, simply cutting down on to the bladder and placing a trocar and canula into the bladder, withdrawing the trocar and leaving the canula until a fistula formed. It can be done with a 2-per-cent. solution of cocaine. I have done it a half-dozen times with local anæsthesia. Another advantage to me, the chief one, is that it absolutely prevents perineal infiltration, which is the greatest danger in operations in old men. Another advantage is that they are not required to go to bed at all; they are always up in twenty-four hours.

I believe, as I say, that prostatectomy is an operation that has come to stay. I think we have learned from our own experience and that of other surgeons that these operations should be done earlier than they are usually done. It always will be a serious operation for the old with damaged kidneys, but among well-selected cases prostatectomy should be a very safe procedure.

It is quite a pleasure to come back to Louisville and find men I had the pleasure of teaching doing major surgery and operations like prostatectomy.

DR. FLEXNER: I am, of course, always interested in the cause of death. I think most of us are. I do not like the diagnosis of general debility as the cause of death in this particular case. I would like to know whether there was not some form of sepsis, or whether the microscope showed any changes in the urine. I do not like the term as a cause of death. Did he die of uremia?

DR. J. R. WATHEN: No, sir; I watched for symptoms of uremia.

DR. ABELL: I wish to emphasize two points that Dr. Rodman made. *First*, the selection of the cases in which the operation is necessitated; and, *second*, the exclusion of cases because of loss of strength, and particularly those whose kidneys are damaged as a result of pressure or infection. These men should be dealt with by palliative methods, either by catheter or supra-pubic measures.

I had one case in which I made supra-pubic drainage, and in three weeks his general condition was so improved that I did a perineal prostatectomy successfully. The great point that should be settled at this time is the class of cases that should be subjected to operation, and the class of cases that should be dealt with from a palliative standpoint. I wish Dr. Rodman had given us his definition of those cases that call for operation. We find that men doing this work are divided. There are those who claim that residual urine only in large amount calls for operation. I believe that residual urine, whether a pint or an ounce, particularly if the case be a septic one, is sufficient indication for operative procedure. It is only by exclusion of inoperable cases that the mortality can be brought down to its proper level.

DR. WEIDNER: As a matter of information to myself, not having heard Dr. Wathen's previous report, I would like to have him, in closing, to give us the distinct indications for operation. I have never sent a case to a surgeon for operation. I have seen a number of old men who presented the ordinary signs of stasis in the bladder, retention of urine, had to be catheterized on several occasions, could not pass urine without trouble, and the urine became decomposed in the bladder and gave them a great deal of trouble. Those same men improved under simple treatment; making them empty the bladder at stated intervals and washing out the bladder. I used remedies that sterilize the urine, and I have used in some cases the remedy that we use in typhoid fever, ascetozone. By these means the patient seemed to improve, and the indications for operation disappeared. Recently a gentlemen was sent to me from St. Louis, suffering from grave symptoms, yet to-day that same man is going about with great comfort.

I would like to hear some of the indications for operation. Dr. Wathen stated that there was clear urine in his case; I would like to know whether the bladder had been treated before that.

DR. J. R. WATHEN (*closing*): In conclusion I would say that I watched the urine before and after the operation. The urine in the first case reported was full of pus, cystitis, and the case was further complicated by a stone in the bladder as large as a hen's egg, which I exhibited at the time, and he was more than three years older than this man. In the last case the urine was clear, no pus, no stone; therefore, I would naturally expect less inflammation of the kidneys. I made careful analyses of the urine all along, and found it normal—specific gravity normal, normal amount of urea, no tube casts. He died of none of the symptoms of uremia.

As to the indications for operation, I believe we will do better by operating on these cases, and subjecting them to less palliative treatment. This gets them over one attack and then they have another. One case I know in the city in which I have insisted on an operation. Just recently he was out in the country, and it was with difficulty that they managed to get into the bladder; but I believe he will get somewhere and have a false passage made in the urethra and may lose his life.

Parker Syms sums up the indications for operation: (1) when frequent urination is an important symptom, (2) when the catheter has to be resorted to, (3) upon the first appearance of cystitis, (4) stone, (5) hemorrhage, (6) pain, (7) when there is a large amount of residual urine, (8) when the bladder is dilated, (9) when the bladder is contracted. This man has had as large an experience as any man that I know of.

DR. W. H. WATHEN: Seventeen days ago I performed a posterior

gastroenterostomy on this man for chronic indigestion, continuing for over five years, gradually growing worse, finally vomiting every time he put food or liquid in his stomach. There was no clear history of his ever vomiting blood, and his feces were never examined for melena, hence there is no proof that he ever had any hemorrhage in the stomach. There were, however, evidences of organic trouble in his stomach, and impaired mechanism in digestion. Having failed to get but a little temporary relief under the treatment of any of the many doctors, having lost twenty-five pounds in flesh, and pain becoming so severe as to require morphine, sometimes as much as a quarter of a grain every hour or two for several hours, he readily consented to be operated on, believing that he could not be cured or benefited by medicine. The operation was performed through an incision three fourths of an inch to the right of the mesial line, the stomach, transverse colon and omentum being brought out of the abdominal cavity. An incision was then made through the transverse meso-colon, and the posterior stomach wall brought through this opening and held in a long clamp covered with gum tubing. There was a large scar of a chronic ulcer in the anterior wall of the stomach, and the posterior wall was extensively adherent to the small peritoneal cavity, which adhesions had to be separated before the stomach could be brought through the opening in the meso-colon. The transverse colon, the omentum, and all the stomach except that held in the clamp, were then pushed in the abdominal cavity above the abdominal opening, and the jejunum brought out against the stomach and held longitudinally in a long clamp covered with gum tubing. The jejunum was clamped about three inches below its origin under the posterior attachment of the transverse meso-colon. The incisions in the stomach and the jejunum were about three inches long, and the mucous membraee was removed in a piece over half an inch wide. The intestines were sutured to the stomach by a double layer of celluloid sutures, one uniting the cut surfaces, going through all the coats of the bowel and the stomach, while the outer layer included the peritoneum and the deeper tissues down to the mucous membrane. Since the operation, he has made continued progress toward recovery; he was constantly vomiting before the operation; he has not vomited since the operation. He got up to the commode on the second day, being unable to have a movement of the bowels on the bed pan, and he has been using the commode ever since. He took water on the second day, and on the third day was taking broths, and on the next day milk, and he has been taking solid food since—the regular hospital diet, as the other patients. He has had no elevation of temperature; his pulse was rapid before the operation, but has come down since the operation to normal.

I want you to ask him questions; he is before you and let him give his own history. I think that this case demonstrates in the first place, that there are many cases of so-called chronic indigestion that have been

treated for many years with temporary improvement, that cannot be relieved without surgical interference. In the second place, I wish to emphasize my belief that the only method in gastroenterostomy that should be considered ideal as an operation of election, is the posterior gastroenterostomy with the elimination of the loop. With this operation, there can be no vicious circle, nor will there be regurgitant vomiting. You do not disturb the mechanics of the stamach or the intestinal tract except to bring about a little adhesion of the anterior wall of the jejunum to the posterior wall of the stomach, as is practically illustrated in the schematic drawings I exhibit to you.

In gastroenterostomies for ulcer of the stomach and its sequelæ, in this ccountry, most of our surgeons have elected the anterior method with a long loop of the jejunum, therefore the immediate results have often been bad, sometimes having the vicious circle and regurgitant vomiting. To overcome this, jejunojejunostomy has been performed to drain the contents of the proximal limb of the loop into the distal end, but the immediate and ultimate results are often unsatisfactory. The anterior method as an operation of election will become obsolete.

Mayo, who did the anterior operation in most of his stomach surgery until recently, did good work and made honest reports, but there were so many immediate and subsequent complications, or bad results, that he was forced to adopt the posterior method. But he now anastomosis the jejunum at a point about ten inches below its origin, thus making a shorter loop, but a loop that to his better judgment indicates the necessity for an anastomosis between the jejunic limbs. He also closes the proximal end near the stomach attachment, thus forcing all the stomach contents into the distal end. Just why he prefers this technique I cannot say, for it is more difficult, requires more time, commits more traumatism, and interferes more with the mechanism of digestion than the anastomosis so near the jejunic origin as to leave no loop, and has nothing to recommend it over the latter method.

The history of this case, as in another similar case I now have in the hospital, is not less encouraging in the immediate results than is the history of the continued and ultimate results. This is made emphatic in the reports of Moynihan's 142 posterior gastroenterostomies with the attachment 2½ to 4 inches below the duodenum. He had but two deaths, and his patients did not have the vicious circle of regurgitant vomiting.

Then I claim that the operation I am performing will become the operation of election—posterior gastroenterostomy at the lowest point of the stomach, with elimination of the loop.

Ochsner is completing a long series of anterior gastroenterostomies with the McGraw ligature, and omitting the anastomosis of the limbs of the intestinal loop. This operation is full of simplicity, can be quickly performed with a minimum of shock, but it violates sound surgical

principles in stomach surgery, and while its immediate mortality will be low, the excellence in the ultimate results will be disappointing. The McGraw ligature may also be applied in the posterior anastomosis, but the continued patency of the gastrojejunic opening following its use can only be shown by further observation. The ligature cannot be used where you want immediate drainage, nor is it indicated where an additional ten minutes in performing the operation is not a factor in the result; but it, like the Murphy button, may be used when a prolonged operation is contraindicated, or would endanger the immediate result.

I have both the ligature and the button with me in all my work, but do not use them unless the enfeebled condition of my patient indicates the necessity for quick surgery.

DR. FLEXNER: Was the pylorus closed?

DR. W. H. WATHEN: No.

DR. FLEXNER: What was the cause of the dilatation?

DR. W. H. WATHEN: Adhesions interfering with the mechanism of stomach contraction and drainage.

DR. RODMAN: I am very much interested in the report of this case by Dr. Wathen, and fully agree with the diagnosis he made in the case of previous ulcer. The fact that he found this scar on the anterior wall of the stomach would almost completely assure me that he was dealing with the after effects of an ulcer; the age of the patient and the history of the case would also emphasize the probable diagnosis of ulcer; in fact, I think we could reach the diagnosis by exclusion.

I agree in the statement made by Dr. Wathen that many of these cases of supposed functional disorder, or gastric catarrhs and atony of the stomach, are the result of ulcer single or multiple. I think we surgeons at the present time will look upon these cases as having their origin in ulcers and gall stones. Undoubtedly the field of the internest is being enlarged and the field of the surgeon is being increased everywhere in the body, and particularly so as regards gastric disorders. I am not one of those who think that all stomach lesions are surgical, but I think we are working in the right direction and that many cases that have not been benefited by medical means will be relieved by surgical measures.

I agree with Dr. Wathen that gastro-enterostomy should be performed, usually if not always, by the posterior route. It is unquestionably the most anatomical and the most surgical procedure. It undoubtedly tends to lessen the danger of the vicious cycle. I do not go so far as Dr. Wathen and say that this danger can be eliminated—though that is the chief indictment that can be brought against gastro-enterostomy at the present time. There is no surgeon who has done a great many of these operations who has not candidly reported cases of vicious cycle. One I could call and known to me has said to me in the last few months that

he is not doing gastro-enterostomy so much on account of the cases of vicious cycle that he has encountered and he has been performing jejunostomy. Still I believe that the operation performed as Dr. Wathen has done is the best operation and is practically the operation of Mayo Robson, of Leeds, and Scudder, of Boston. I take it the operation you did was more that of Scudder than the operation formerly done by —— which he has given up for the operation you have done in this case. He is doing much like you did and lessening the loop. All things considered, however, and being equal the posterior route should be given the preference. I believe with Mayo that with the anterior operation the vicious cycle is much more apt to result than after the posterior operation.

I also agree with Dr. Wathen in the statement that other things being equal, and time not an important element, that the operation of direct suture is undoubtedly the preferable one, and I have always done the operation as he has reported.

The time required to do a posterior operation by direct suturing is at least thirty-five minutes even if you are a deft operator; it will usually require forty-five minutes; some men do it in less; there are few men who will operate in less than thirty-five or forty minutes. Certain patients cannot stand an operation so long as this. These patients should be operated on by the anterior route, and instead of making the anastomosis by direct suture, it should be made by the Murphy button. The Murphy button in these cases is a life saver.

As to the last point brought out by Dr. Wathen, that is, the danger of carcinomatous implantation on the old ulcer, I do not regard as a chimerical one. A careful examination of the question will convince any man that the site of cancer and ulcer are the same. Both are found in eighty per cent. of the cases at the pyloric end of the stomach. Mussar called attention to this some years ago. He had observed that sixty per cent. of gastric ulcers resulted in cancer. This was thought to be high at the time but has been exceeded in the last few years, and the majority of observing surgeons would increase rather than lessen the percentage.

I was surprised at Mayo's paper last year in which of 159 cases of carcinoma of the stomach more than sixty per cent. gave a history of gastric ulcer. While he did not state that sixty per cent. of the ulcers would be followed by cancer, sixty per cent. of the cancer cases gave a reasonable history of gastric ulcer. One authority thought fifty per cent. resulted in cancer, but that a large per cent. is followed by cancer I think there can be no doubt. But in a patient the age of this man, where the symptoms have led one to suppose that there is probably carcinomatous change, I should think a resection of the pylorus would be the conservative thing to do. Unquestionably this operation has a limited field. The mortality, while not excessive, will certainly always be somewhat greater than the mortality following gastro-enterostomy. When there is malig-

nant degeneration, when dealing with probable multiple ulcer—and Robson has demonstrated the ulcers are more frequently multiple than not—and when there are disabling adhesions at the pyloric end of the stomach, I take it that the operation of resection of the pylorus is a perfectly justifiable procedure. Mayo has done it a number of times with success. The last time I saw him he had done nine operations—all successful. I think one should not make up his mind what operation he is going to do until the abdomen is entered and the stomach carefully examined. If it is found that gastro-enterostomy will probably relieve as in the case of this man where there is dilatation and no active ulcer, then I should give preference to a gastro-duodenostomy and also use the posterior route. But if the age of the patient indicated probable malignant changes, or if multiple ulcers or disabling adhesions were present, I would be inclined, if the patient could stand the operation, to give preference to pyloric resection.

DR. RODMAN: I feel a hesitation in saying anything at all. I would really rather be excused. Dr. Leavell wrote me a few days ago, and was kind enough to ask me to prepare a paper, but illness in my family made it impossible for me to write a paper. It would be a supererogation to say how much pleasure it gives me to see here to-night so many of my friends that I have loved so long. The pleasure increases from the fact that you are looking so well; time has dealt generously with you. I am glad to see Wathen, who was lean and Cassius-looking when I went away seven years ago, so much improved.

In lieu of the paper which I had not time to write, I will show this instrument, possibly new to some of you, indirectly bearing on the paper, as Dr. Leavel says.

In the first place, I think that all of us have realized the importance of urinary examinations in surgical as well as medical cases. Of course, the chemical and microscopical examination is satisfactory so far as it goes, but it does not give an accurate idea of the condition of the two kidneys; it does not enable us to tell whether the right or the left kidney is most at fault. The injection of methylene blue or other substances, or such substances by mouth, indicate the general condition of the kidneys, but gives us no definite information as to the condition of either kidney. I am sure that every surgeon has been called upon to treat cases of this kind. The exploratory incision to find out the condition is satisfactory in some cases, and in others it is unsatisfactory.

In case of the removal of one kidney, it leaves the surgeon in ignorance of the condition of the opposite kidney, and some of the patients die from renal insufficiency. The ordinary signs of kidney disease will not enable one to make a diagnosis of the condition of each kidney. Every one of experience must recognize the limitations of the X-ray. Some stones are easily located; some of the soft ones are not located with accuracy. We will then have to rely upon catheterization of the ureters

or intra-vesical separation of the urines as being the only absolutely reliable way of getting at the condition of both kidneys. Catherization of the ureter, so far as it goes, is a very satisfactory operation, and yet here there are distinct limitations. Catheterization of the ureters in the female is a very easy procedure; anyone can do it, and yet this must always be an unusual procedure, inasmuch as it requires a general anæsthetic, and that it is a bar to its usefulness. Catheterization of the male ureters is spoken of as being feasible, but there are few men who can do it; there is nothing more difficult; besides, there is danger of infection. This danger, I think, has been underestimated rather than overestimated; therefore, it seems to me hat the best way of getting at the kidneys is intra-vesical separation of the urines.

The history of intra-vesical separation of the urine began in 1890, when a Brussels physician introduced the first instrument of that kind. The instrument was not satisfactory. About 1896 the next instrument was introduced by ———, of Germany. That also was unsatisfactory. In 1898 our friend, Morris, of Chicago, introduced his instrument, and that was the first satisfactory one given to the profession. The objections to this instrument are that it is very difficult to introduce, and is very painful, requiring a general anæsthetic; though it is an excellent instrument, and some prefer it to any other. In 1901, Dr. ————, of Paris, introduced his instrument. It consists, as you see, of an instrument shaped like a catheter, and can be introduced almost as easily as a catheter; the curve is somewhat different, as you notice. The plan of the instrument is that it gives a diaphragm in the bladder, which divides the bladder into two parts, and enables one to collect the urine from the two kidneys separately. The instrument is exceedingly simple, and I will take it apart and show it to you. It consists of a shaft that is straight and a handle which works very much like a lithotrite, and on top of the shaft is a slide; this moves to and fro as you move the screw and raises into position a joint which has on it a rubber diaphragm. You have with each instrument a male catheter with openings on the inside, and the urine flows out from the bladder where it is collected.

The technique of the operation is as follows: The instrument does not require an anæsthetic, and it can be used in the male as well as in the female; first, give the patient a pint of tea an hour before, so as to make the urine flow freely. The instrument is easily sterilized by boiling; the urethra is washed, of course, with a sterile solution; cocaine I have found to be unnecessary either in the male or female; cocaine will only relieve the pain of cutting and not the pain of stretching. I have found very little pain produced by this instrument—really no more than in the introduction of a catheter or a bougie. The instrument should be introduced with the patient lying down, but after its introduction the patient should be made to assume the semi-erect posture or sitting position, so as to bring the instrument in contact with the floor of the

bladder. Then, when the instrument is in position, this screw is turned and the rubber diaphragm goes into position and divides the bladder into two equal parts. Of course, the bladder is empty; it is first washed with a boric acid solution. Then the ureters begin to pump, and the urine comes out in jets of four or five drops at a time, and then the urine is collected in these little tubes and you can see whether or not there is any difference between the two kidneys; for instance, if you are dealing with a pus kidney, you would get pus in one tube and clear urine in the other. I have seen the instrument used a number of times, and have seen some beautiful demonstrations of its use. I have seen it used on a patient that had had a nephrectomy performed, and of course there was no urine on that side. I have seen it used where methylene blue had been given, and the urine came away perfectly clear from one kidney and colored from the other.

I take it that this is perhaps the very best instrument that has ever been presented to the profession for intra-vesical separation of the urine. I have used it a number of times myself, and satisfactorily. One patient that was examined had a cyst about the size of the fist growing from the kidney, and after two or three examinations we were able to determine that the damaged kidney was not secreting more than one-third as much urine as the other kidney. In all the cases that I have examined up to the present time I have been able to demonstrate that the instrument is of use in making diagnosis. It is a simple instrument; it is not costly—it costs but ninety francs. I am sure it will give aid in a difficult class of cases that we were not able to deal with in the past.

DR. FLEXNER: I have seen Morris use his instrument in a male without an anæsthetic.

DR. RODMAN: I have never seen it used without causing pain. In the female it does not cause pain.

DR. LEAVELL: There is nothing to say in closing the discussion.

PROCEEDINGS LOUISVILLE SOCIETY MEDICINE AND SURGERY. STATED MEETING, JANUARY 16, 1905.

DR. ABELL: This specimen is one of tubal pregnancy. I do not exhibit for the beauty of the specimen, though it is a pretty one, the sack being beautifully shown, but for the clinical history of the case, emphasizing the fact that these cases do not always present classical symptoms upon which a diagnosis can be made.

The woman was twenty-seven years of age, perfectly healthy, married last August; menstrual life perfectly healthy; never any previous inflammatory disturbances; never missed a period; had none of the morning sickness; no changes in the mammae, nor any changes that ordinarily occur in pregnancy. The only evidence she had was a sharp,

severe pain in the side which was more marked than a colicky pain, associated with metrorrhagia, extending over a period of six weeks. It presented no trouble in removal.

This specimen is the remnant of the uterus, ovaries and tubes. The ovaries are practically destroyed from cystic degeneration, they being nothing more. The woman was forty-two years of age, married two years, miscarried at the sixth month, last September.

The interesting feature of this case is this: When she was placed under an anæsthetic, an artery forcep was introduced for purpose of dilatation and without using force tore through the uterus into the cavity. Although it has been in alcohol you notice the ease with which it goes through the uterine body. I do not know the pathology of the condition and hope some one will be able to enlighten me on the subject. The tissue is almost as soft as liver structure. From the history of the case, the microscopical examination not having been completed, I take it to be one of fatty degeneration with atrophy occurring. This from its size looked like a virgin uterus, and yet the woman had carried the child for six months.

The next specimen is a sarcoma of the jaw; it is quite an interesting one from the standpoint of the history. It was in a woman in the thirties, who thirteen years ago had a molar tooth extracted, and following that immediately or coincident with it, she had trouble with the alveolar process. Five years ago in August a section of the alveolar process was removed, and in October of the same year a section of the jaw was supposed to be removed which evidently was done because the jaw terminates here at the last molar tooth socket. The growth was quiescent until three years ago, since which time rapid growth has occurred. This growth was filled with these cysts which are characteristic of some sarcomata; we see the characteristic cysts all the way through.

She was a very small woman and the deformity was quite marked. The growth had extended beyond the mental eminence and its removal necessitated the detachment of the genio-hyoglossus muscle, the tongue being held forward by means of a silk suture until firmly anchored in the scar. The condyle articulating with the glenoid cavity was not removed.

There was very little loss of blood, the vessels being ligated before they were divided.

DR. DUNN: Just one word about the after treatment of a case of that kind. Dr. Abell is to be congratulated upon removing the sarcoma so neatly as he has. It seems to me in a case of this kind, besides the ordinary surgical treatment, the X-ray is indicated. I believe should any portion of this sarcomatous tissue be left we will have a recurrence of it, and by using the X-ray, if it has the effect claimed for it, it will destroy the remnants left behind. I am sure if the patient were one of mine that would be the chief after treatment in the case.

DR. IRELAND: I would like to say that those are three interesting

specimens. I administered the anæsthetic to the patient with the ectopic-gestation for Dr. Abell, and about five days previous to this I gave an anæsthetic for exactly the same condition and almost precisely the same history for another surgeon. Dr. Abell is to be congratulated. He did not mention the rapid recovery of these cases—the ectopic gestation and the jaw case. It is remarkable how little deformity there is in the latter case. The scar is beneath the jaw so that it does not show much.

Like Dr. Abell, I do not show this specimen for its beauty, but for the peculiar history of the case. This is part of a tumor that I removed from a girl thirteen years of age, with the following history: About three weeks ago she was taken with considerable pain in the lower abdomen and pelvis. Her physician was called and he noticed slight enlargement of the abdomen. He made a little palpation and did not feel anything unusual, other than the symmetrical enlargement that existed. She had considerable pain, a coated tongue and some fever. He gave a litte fever mixture and a little anodyne to relieve the pain. A few days afterward he again called and she continued to suffer from the pain, pulse getting faster and the abdomen getting larger, and there existed some tympany of the abdomen.

Upon examination by palpating externally he outlined a mass in the lower abdomen, and upon bi-manual digital examination he found an enlarged uterus—the cervix about normal size, but the uterus seemed much enlarged—about the size of a four month's pregnant uterus.

For a couple of weeks the pain, pulse and temperature increased, the pulse 135 and temperature 102.5. On last Thursday I was called to see the case, it being out in the country about ten miles. Upon arrival I found the condition about as outlined. I advised removal to an infirmary and that an exploratory incision be made.

Upon opening the abdomen I found a mass, and that was all for awhile that I was able to determine, because this tumor occupied all that portion of the abdomen below the umbilicus, in fact it extended a little above the umbilicus. It was adherent to the parietal walls everywhere and no intestines were to be seen at all. After freeing the tumor from the parietal walls the omentum was found adherent to the tumor clear across the abdomen, was ligated in sections and cut off. The tumor was adherent to everything; so firmly adherent was it that it had to be torn and lacerated a great deal in getting it out. The abdomen was partly filled by a pea soup fluid. The peritoneum was much thickened; about a half pint of the contents of the tumor had leaked out giving rise to peritonitis.

It required two hours and a half to complete the enucleation of the tumor and complete the operation. The patient was right much exhausted when through with the operation, pulse 160. I introduced a gauze drain surrounded by rubber tissue. The distension of the abdomen

increased the next day following the operation. There was a good deal of drainage for twenty-four hours and a great deal of pain. The drainage was removed at the end of thirty-six hours. This afternoon (third day) the condition of the patient is much improved, pulse 114, temperature normal. She is taking all the buttermilk she wants; bowels moved, and she is bright and pert, and the distension of the abdomen is going down, and it looks like she might get well, though it did not look like it when I got through with her.

DR. ABELL: Did you state the origin of that tumor, doctor?

DR. IRELAND: It was hard to determine. The tumor extended out into the broad ligaments, covering the uterus; it seemed to be a part of the uterus before being dissected off and nearly enveloped the uterus. I believe that it was ovarian in origin.

DR. ABELL: Was it between the layers of the broad ligament?

DR. IRELAND: It extended down between the layers of the broad ligament.

The next is a fibroma of the uterus. This was removed to-day with the assistance of Dr. Abell. It was removed from a woman forty-three years of age; the principal symptom she had was hemorrhage. I was first called to see her four or five months ago; she had had a previous hemorrhage and was almost exsanguinated, pulse 130. I gave ergot. I examined her and told her the effect of the medicine was only temporary, that she had a fibroid uterus and it would be necessary to remove the entire organ to relieve her of the symptoms. She of course wanted to continue the use of the medicine. At the next menstrual period, which was three months later, it was used with good effect; at the next one with less effect, and at the last one with no effect. I also used adrenalin chloride solution; I gave five minims every two hours for several days with no effect, though in some cases I have used it with good effect.

We removed here, as you notice, the entire uterus. The cervix had a large laceration and there was some fibrous polyps attached to it. We curetted the uterus and found fungoid, soft tissue up in it. There were not many adhesions except some few on the left side of the uterus where we have a hydro-salpinx.

This specimen was presented for bringing out the history of the case? The only thing was the profuse hemorrhage.

DR. WATHEN: What was your method of removal?

DR. IRELAND: From below we separated the vagina from uterus, anteriorly and posteriorly, and went above and removed the uterus and ligated with silk.

The seperation of the vagina anteriorly and posteriorly, as far around on each side as the uterine vessels, is accomplished more easily through the vagina than through abdominal incision. But I believe the balance of the work can be done better and with greater safety to the patient

than the vaginal route, especially when some adhesions exist and these cannot always be determined prior to operation.

DR. ABELL: Both are most interesting cases, particularly the one first reported. That I should think is most interesting from the standpoint of diagnosis. In a girl of this age, thirteen, only four periods having passed, it is hardly probable that we were dealing with a multiple ovarian growth. The fact that it was intra-ligamentous, between the layers of the broad ligament, would seem to indicate that it was one of those species of growths developing from the Wolffian bodies of the parovarium. The removal of such a tumor is one of the most difficult operations with which we have to deal, and Dr. Ireland is to be congratulated upon getting it out without wounding the surrounding viscera.

The second case illustrates the pathology of fibromatous growths and in this case the polypoid endometritis that was present. We had no opportunity of seeing the exact thickness before the uterus was removed, but from the amount of material that came out I should think that it was at least one-fourth of an inch thick.

As to the method of removal in this case, it was accomplished by separating the uterus below, separating the rectum and bladder and going well out to the uterine on each side, then opening the abdomen it was an easy matter to ligate on both sides. We got it out readily, and the operation was completed and the patient off the table in a short time which was necessary in this case. The blood clotted with great difficulty; it was very thin and the clot was not tenacious like it is ordinarily.

DR. JNO. R. WATHEN: These are interesting cases that Dr. Ireland has presented. I would only like to speak to the second, and that to the technique of the operation. I beg to differ with the operator in regard to the procedure in the removal of these tumors. It is conceded to-day that tumors the size of this are more easily removed by the vaginal route than the abdominal route, and especially so since he had started by this method. After the vagina was separated the removal would have been easy in this case. The uterus could have been bisected and the whole organ removed inside of five or ten minutes. In the past we have had a good deal of argument, but to-day I think it is agreed that the vaginal route is preferable in cases of this kind. We now have before the profession about the same discussion as to whether the prostate is better removed from above by the suprapubic method or from below.

DR. IRELAND (*closing*): The two specially interesting features of the first case were that a condition like this could exist and she have no symptoms, for these firm adhesions must have formed previous to this attack. Up to within three weeks ago she was seemingly a well child, and yet there existed a fearful condition like this; then, again, what should bring about an infection of a tumor like this in a girl of thirteen?

As to the second case, the separation of the vagina fore and aft was

not done with a view to removing the uterus *per vaginam;* it was only done to facilitate the removal of the uterus through the abdominal route. As to the two methods, I firmly believe that the abdominal route is the safer of the two; no doubt, in some instances, perhaps many instances, the vaginal route is the shorter of the two. Adhesions, when they exist, can hardly be dealt with, certainly cannot be dealt with as well through the vaginal route as through the abdominal. Besides, there are some additional dangers through the vaginal route that we do not have through the abdominal route. We can ligate the vessels and control hemorrhage much better through the abdominal than through the vaginal route.

Recent Progress in Medical Science.

PATHOLOGY.

IN CHARGE OF

E. S. ALLEN,

Professor of Pathology, Kentucky School of Medicine.

Opitz Pregnancy Glands.—Schaw (*N. Y. Medical Journal*, January 21, 1005), asserts that the glands described by Opitz existing in the endometrium are characteristic of pregnancy. In forty-one cases he found these glands in which a previous pregnancy could be excluded.

Serum Diagnosis of Tuberculosis.—Arloing and Carmount, after having carefully studied the agglutinating power of fluids, have been enabled to diagnose tuberculosis by the use of serum and tabulate the advantages of the serum method.

First.—It is absolutely harmless, since all that is necessary is to withdraw a little serous fluid and it can be applied in all cases, whether febrile or not, whether seriously or slightly ill.

Second.—It is applied with ease and rapidity since it is not necessary to have the patient under observation, and it requires only a few hours for its accomplishment.

Third.—The delicacy of its reaction in cases where the lesions are discrete or latent and difficult to recognize by the usual methods.

The authors have found that the agglutinating reaction in tuberculous subjects appears most often and within certain limits and in inverse ratio to the gravity of the infection and the extent of the lesions. In case of suffering from other diseases, and in which the clinical data do reveal positive signs of tuberculosis, the serum reaction is an aid in disclosing a large number of cases of latent cases of tuberculosis.

The practical value of the procedure may be summed up as follows:

1. A positive serum reaction in the case of a suspected subject is a diagnostic point of great value in establishing the existence of visceral tuberculosis still active or having become inactive recently.

2. A negative serum reaction is of less value as a negative sign, since agglutination is absent in a certain number of tuberculous cases.

3. The absence of the reaction in cases of advanced tuberculosis, where serum diagnosis is no longer necessary, may in certain cases confirm an unfavorable prognosis. On the other hand, in the case of suspected tuberculosis, in the absence of clinical signs and symptoms of importance, the action of the reaction may aid in eliminating the disease.

Perkins comments on the tendency of the part to rely too much on laboratory findings and too little on thorough clinical work. He urges that the diagnosis of pulmorary tuberculosis in its earlier stages be made by judiciously connecting the physical signs and clinical history with the pathologic lesions and systemic effects of a slight tuberculous infection.

Dr. Nicholas Senn in his letter from Bombay as given by the Journal A. M. A., December 24, 1904, describes the laboratories in a most interesting manner, among them is the laboratory where the antivenene is prepared. He mentions Calmette as the discoverer of antivenene, and the serum known as Calmette's antivenene. Captain Lamb who has made a very careful study as to the value of this agent in the treatment of bites of poisonous snakes has come to the conclusion that antivenene pepared from the venom of one genus of snakes is only curative in the treatment of bites inflicted by that genus, and no other. Convincing experimental research and a large clinical experience combine to prove that the antivenene prepared from the cobra venom is, if used in time, a specific for cobra bites, but useless in the treatment of bites of the viper. Dr. Senn says that reasoning from this standpoint, it seems to him that an antivenene prepared from the venom of our rattlesnake ought to prove successful in the treatment of bites inflicted by this genus of snakes. Dr. Senn relates an accident that happened in the Parie laboratory:

A coolie in handling one of the cobra struck one of his thumbs against one of his fangs. Antivenene of doubtful age was used at once, but proved useless in warding off the immediate symptoms provoked by the poison. Great prostration set in, he became paralyzed in the lower limbs and unconscious. Antivenene from another source was quickly procured and administered half an hour after the accident occurred. The threatening symptoms disappeared promptly and in three hours the patient was able to walk to his house. Gangrene of the end of the thumb however occurred, which proved the intensity of the local action of the venom.

THE
AMERICAN PRACTITIONER & NEWS.

"NEC TENUI PENNÂ."

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Editorial.

THE subject of diphtheria and the amount of antitoxin to inject in such cases is one of extreme interest and one that there is a wide diversity of opinion upon. In the administration of only an immunizing dose there seems to be more danger in overdosing than were a larger dose given when the disease was actually present. If you recall the Ehrlich Side-Chain theory you will see readily that the body when busy with an infection or rather a toxæmia is less disturbed by the further introduction of a foreign substance into its interior than when it is in its natural state. At the New York Academy of Medicine, Section on Pediatrics, November 10, 1904, Dr. Louis Fischer read a paper on the subject of the treatment of diptheria by anti-toxin: a plea for larger doses and suggestions for its hygienic and dietetic treatment. His dosage is as follows:

"The proper dose of anti-toxin for a mild case of diphtheria should never be less than 2,500 to 5,000 units for a child of any age. For a severe case of diphtheria with marked toxic symptoms such as a slowness of the pulse and enlarged glands, the dose of anti-toxin at the beginning should be between 5,000 and 10,000 units. When a case of diphtheria has been overlooked, and is *seen after the third day of illness*, then 10,000 units should be injected. If the symptoms do not improve during the first twenty-four hours, then 5,000 units should be injected after the first twenty-four hours, and every twenty-four hours until there is a marked improvement in the general condition. If a severe case of *septic diphtheria* is seen after the fourth or fifth day of illness then 10,000 units should be injected. If the symptoms do not improve

after twenty-four hours, another injection of 10,000 units should be given. There is no harm done by giving 20,000 units during the first twenty-four hours if a severe case of diphtheria of the nose or a severe case of laryngeal diphtheria is seen. Just enough calomel or belladonna is necessary to produce the proper systemic effect, likewise anti-toxin must be given in proper quantities to neutralize the toxin in the system. If we do not neutralize the toxin in the system by giving the proper antidote, then we must not be surprised to find heart complications (myocarditis), a toxic nephritis or paralysis as a sequela, to this disease."

He also says:

"A few facts of decided clinical importance have been noted by me at the bedside in the hospital: First, that *the temperature alone is not a sure guide as to the outcome of a case of diphtheria. Second, the heart is the guide, hence a study of the pulse is more important in estimating the prognosis of a case of diphtheria.*"

THE American Anti-tuberculosis League will hold its next meeting in Atlanta, Ga., April 17 and 19, 1905, and is intended to be a united effort of American Physicians to better humanity. We are extremely glad to see something large and radical under headway in this country and wish the meeting to be a grand success as also the object of the league. It shall be the editors pleasure to attend and offer anything in his power to aid and abet this worthy project.

INTERNATIONAL SOCIETY OF TUBERCULOSIS.

A NEW scientific society has just been founded in Paris, under name of "Societe Internationale de la Tuberculose." Its office is in Paris. Meetings are held monthly, on notice from the General Secretary.

The scope of this association is the study of all questions concerning tuberculosis and the centralization of means of defense. Its work will be published.

The association is composed of medical men or scientists holding diplomas from French or foreign universities and colleges.

Admission may be obtained by application to the President, which application must be accepted by a committee elected at a general meeting. The annual subscription is ten francs (nine shillings).

For further particulars and for applications address Mr. le Docteur Georges Petit, General Secretary, 51, Rue du Rocher, Paris, France.

THE Bourbon County Medical Society held its regular monthly meeting at Paris, Ky., February 15, 1905, with President Keller in the chair. The subject of grip was exhaustively discussed and a report of cases followed. The officers now are: A. H. Keller, President; C. B. Smith, Vice-President; C. G. Daugherty, Secretary.

THE University of Halle, Germany, has conferred upon Dr. Willy Merck, member of the old house of E. Merck, Darmstadt, established in 1668, a very high distinction, namely, the honorary degree of Doctor of Medicine "in recognition of numerous meritorious contributions looking to the advancement of the therapeutic side of medicine."

THE Ohio State Board of Health has taken steps to do that good which we should like to see all communities get the benefit of. When cases are reported instructions are sent to that party as to the hygiene of his condition. This is especially in regard to the gonorrhœa and syphilis and may do a great deal of good in preventing further spread by hastening a cure in some cases. This is practical in the poorer classes in whom there is a great deal of neglect. The Board has provided a bacteriological laboratory for the examination of specimens where the sick poor can send through their physicians specimens for examination.

BOOK REVIEWS.

Blakiston's Quiz Compends.—Medical Latin. Designed Expressly for Elementary Training for Medical Students. By W. T. St. Clair, A. M., Professor of the Latin Language and Literature in the Male High School, Louisville, Ky.; author of "Cæsar for Beginners," "Notes to Cæsar's Gallic War, Book Three," etc. Second Edition. Revised. Philadelphia: P. Blakiston's Sons & Co., 1904.

We know of no one better prepared to write a book on Medical Latin than Prof. William St. Clair. If his old work could have lacked anything it might be its vocabulary of common medical-latin terms. In the present work we may safely say it is exhaustive in its vocabulary and relevant words to certain subjects are judiciously placed, i. e., nearest those exercises in which they are used. This work is one of the Blakiston Compends but enjoys the distinction of exhausting its text.

Qualitative Analysis Brief.—By Allard Memminger, M. D., Professor of Chemistry, Hygiene and Clinical Urinary Diagnosis in the Medical College of the State of South Carolina; of General and Applied Chemistry in the College of Pharmacy of South Carolina, and Member of State, National and International Medical, Pharmacal and Scientific Societies, Active and Honorary, etc., etc. Second Revised Edition and Rewritten. Philadelphia: P. Blakiston's Sons & Co., 1904.

We find Memminger's Qualitative Analysis Brief a very convenient concise treatise on the chemical tests, chemical methods and requisites. Those doing college laboratory work will appreciate its value. It has 124 pages and was designed by its author for his class work. It is sufficiently illustrated and is interleaved for notes. We are glad to see a book of this kind.

One Hundred Years of Publishing (1804–1904).—A Brief Historical Account of the House of Wm. Wood & Co. Illustrated. New York: Wm. Wood & Co., 1904.

The above little book is not only a pleasant announcement to the medical book world, but an exponent of that firm's successes, which Wm. Wood & Co. are not the only ones to be proud of.

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else."—RUSKIN.

Original Communications.

ACUTE ABDOMINAL DISTURBANCES.

Are They Ever Functional and Temporary or Are They Always Organic and Inflammatory.

BY EWING MARSHALL, M. D.

AT first blush my subject looks enormous because it embraces all the organs and their coverings, which are contained in the abdominal cavity. Now the great menace in the abdomen is inflammation of the peritoneum. I take it that whether it be the stomach, the intestinal canal and its appendages, the bile ducts, the ureter, etc. In other words, wherever we have a mucous and muscular coat covered by the peritoneum, the conditions surrounding them vary but in degree and that for all purposes of study, any light thrown on the one will assist in the understanding of the others.

One brilliant surgeon, writing on lesions of the appendix said: "The ideal plan of treatment is to remove every diagnosable inflamed appendix before the peritoneum is involved." As John Hunter wisely said "A fixed principle fixes the mind but a doubtful one leaves it no rest. Operation in this first stage can be carried out with no greater risk or difficulty than in the 'interval' stage and the patient will get well forthwith without a dangerous and prolonged illness."

I, as a general practitioner, heartily endorse this opinion but the excuse for this paper is that I find so many cases where I am not reasonably satisfied that the appendix is inflamed.

I wish in general terms to state a case to which we have all been summoned in consultation.

The prominent feature in the case is pain in the abdomen. This may

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vary from a slight uneasiness to such agony as to call forth distressing cries, extreme restlessness, and even spasms. The temperature may be from slightly sub-normal to 103° or 104° Fahr. The pulse from 50 to 150 —from a small wiry to a full bounding—may be regular or irregular. Previous history: may have had similar attacks before or this may be the first. Duration of present attack from a few minutes to recurring paroxysms extending over many days. May be a history of imprudence in diet, with exposure to cold, wet, and loss of rest. May be nausea, diarrhœa or constipation, frequent micturition or the reverse. All of these symptoms may have been more or less in evidence. The attending physician recalls the following things which may produce this train of symptoms: Traumatism, acute indigestion, neuralgia, flatulent colic, spasmodic stricture, obstructed bowel from hernia, intus-susception, volvulus adhesions, tumors, etc.; appendicitis, gall stones, renal stones, floating kidney, aneurism of abdominal aorta, ovarian troubles, lead colic, etc.

However, by careful examination *generally* we can localize our case to some certain organ. For this paper, I have supposed that we have by exclusion determined that the trouble is connected with the alimentary canal. I have seen it stated that Celsus—who lived about the beginning of the Christian era—wrote: "Whenever there is an injury from which survival is possible the immediate indications are two—to see that neither profuse hemorrhage nor inflammation terminate life."

This is an axiom governing us to-day. The latter horn of the dilemna is the one which especially concerns us to-night. Shall we delay until we perceive the signs of inflammation hazarding the chance that they are perceived too late and the patient thereby risks a general peritonitis or shall we presume upon its coming and forestall it by an operation to the greater safety of some cases?

Now the headings under which I desire to discuss this side of the case are:

First—Are there functional troubles due to a temporary acting cause which may produce this train of symptoms?

Second—Granting the above, may they be the forerunners or the associates of the initial stage of inflammation?

Third—Granting the second proposition, should the abdomen be opened in every case presenting severe intestinal pain?

I take it none would disagree with the statement that certain substances improperly ingested, are capable of producing acute indigestion and a variagated eliminating treatment is sanctioned but the limit of this treatment is really the point under discussion. Sir Thomas Watson wrote nearly a hundred years ago very plainly on this subject—*Watson's Practice*, p. 806—"Now under these afflicting circumstances the question will force itself upon you: How long am I to pursue the purgative system? Common sense and common humanity answer: You must stop it

the instant you are convinced that there is a mechanical obstacle which cannot be overcome. But how are you to know this? That is one difficulty."

Again on page 801, Sir Thomas writes: "You may probably have observed that the symptoms, which I have been describing, are just the symptoms which the surgeons see so frequently in cases of strangulated hernia. The symptoms of that surgical complaint are, in truth, most commonly at least, the symptoms of enteritis, caused by the forcible closure of the bowel. Obstruction to the passage of the contents of the bowels gives rise to its inflammation. And we often find after death preceded by the signs of enteritis, an internal strangulated hernia. In some cases bands or strings of coagulable lymph, the products of bygone inflammation have formed snares (so to speak) for the bowel, which at length, they catch and constrict. They do no harm till some coil of intestine gets beneath or beyond them; and then they strangle it, as the phrase is. I have twice seen the appendix vermiformis prove the immediate cause of fatal internal hernia."

So that we see that at the beginning of the last century they understood the danger of obstructed bowels but that is comparatively modern, for I have seen it stated that Hypocrates' writings demonstrate that he recognized a condition of involvment of the appendix and described it fairly well.

William Russell, a prominent physician of Edinburg, in writing on acute appendicitis, says:

"Nothing is more valuable and nothing can be more misleading in medicine than personal or individual experience. This seeming paradox is especially applicable to the clinical and therapeutic questions which surround the cæcum, for in this domain each individual physician, surgeon and general practitioner tends to base his views and methods on his personal experience. One man calls in the knife the moment he scents appendicitis; another holds lingeringly to the dying faith in a stercoral typhlitis and perityphlitis, and each man is prone to continue to act in accordance with the results of a limited personal experience."

I have recorded the last reference because in discussing whether there are functional troubles which may produce the several symptoms laid down in my supposed case I wish to say that I have seemed to see an immense number of such cases, and in one six weeks during the fall of 1903, I saw seven such cases. Four of them responded promptly to a brisk eliminating treatment, but three caused me considerable anxiety. One of these I had Dr. W. H. Wathen to see with me, and I consulted him about the other two. The one he saw had severe abdominal pains coming in paroxysms lasting for twenty-four hours before Dr. Wathen saw him. The doctor recommended a second calomel purge, and the patient, a stout grocery man, was at his duties again in two or three days. He has had no return of his trouble up to the present time.

The other two cases occurred in the same week and each caused me anxiety for a week. They had a very similar history. One was a man about fifty, stout, short and plethoric. I found him suffering great pain which I took to be acute indigestion, and caused him to vomit, gave him calomel and washed out his bowel. This gave him comfort for several hours. But there was recurring paroxysms of pain with relief produced by enema and hot applications. Never any bad facial expression. Pulse good between paroxysms, but during paroxysms very fast and the skin wet. Finally on the fifth day after a big dose of castor oil and an enema consisting of glycerine, turpentine, chloride of sodium and hot soap suds a foul mass came away and in it were some tomato seeds. He assured me he had eaten them forty-eight hours before my first visit. The next day he was perfectly comfortable and except for a little feebleness, for I had starved him out, he was a well man. I have spoken to him lately and he has had no abdominal discomfort.

The last case was a girl of thirteen. On a Saturday she went to a swell luncheon and was served all kinds of indigestible things. She had no discomfort Sunday, but Monday she had a dull headache, which did not prevent her going to school and did not interfere with her playing in the afternoon. Tuesday she went to school but had to come home in the middle of the forenoon, complaining of abdominal pain with a distended bowel. I saw her in the afternoon and ordered an enema, to be followed by calomel at night. She had a fairly good night but had paroxysms of severe pain in the morning and remained at home. During Wednesday these paroxysms came every hour or two. Movements from the calomel were reported but the paroxysms continuing; another enema was given Wednesday night but she was somewhat restless. Thursday forenoon she was pretty comfortable, but in the afternoon the paroxysmal pain began again and she was given calomel for the second time. Friday morning a large enema brought away masses of undigested food containing substances that were recognized as having been eaten at the luncheon on the previous Saturday. All three of these cases had elevated temperature on two or three occasions. All three of the patients are apparently free from any trouble now.

I have a patient who seems to be poisoned by tomatoes. Several times in the last fifteen years he has attempted to eat a little of them; every time he has suffered with severe abdominal pains lasting from one to three days; then a diarrhœa starts up and finally he passes the undigested tomato and soon becomes normal again.

From such experiences, I have thought that we do certainly have functional derangements due to a temporarily acting cause producing the train of symptoms, which are equally the symptoms associated with others in appendicitis.

Now my second division:

Do such derangements persisting lead on to inflammation which of

necessity demand an operation? Possibly in two of these cases I have cited there was some catarrhal inflammation and if it had progressed might have caused ulceration which might have ended in perforation. We certainly know such things occur in typhoid fever. In all cases of true typhoid fever we have the inflamed peyers patches but only a small per cent. of them go on to perforation. We would not consider a moment operating on every patient the subject of typhoid fever. We have mucous membrane acutely inflamed constantly in other parts of the body running through a varying career and generally returning to a comparatively normal condition. Why then should we treat the inflamed appendix differently? There are several arguments for so doing.

First—Because, it is said, an appendix once inflamed is like a hidden mine in a patient's abdomen, liable to explode at any moment.

Second—If the explosion occurs it may produce general peritonitis, carrying off the patient in spite of the doctor and surgeon.

Third—That the removal of the appendix is a simple and safe operation done prior to the formation of peritonitis.

Fourth—Many have asserted that the appendix is a useless remains of a former organ needed in some previous age.

The terror that a once inflamed appendix is like a bomb with a slow burning fuse menacing life ever afterwards is a serious proposition to consider. Medicine is burdened with just such things. Some conspicuous character makes a positive statement in a terse way and it becomes a law. Aaron Burr said: "Law was something positively stated and forcibly maintained."

Murphy wrote (*American Journal Medical Sciences*, Aug., 1904): "To me there appears to be no excuse, no explanation, no justifying hope that relieves the patient of the dangers of this disease."

Legueu wrote: "The prospect of spontaneous recovery and of medical treatment is a decoy to rely on which is to be lead into a snare; when once an appendicitis has commenced, whatever may be its aspect, we never know what it will become; and since the patient now in any case is condemned to operation at some time or other he may as well be assured of its benefits at once."

Many, if not most, of the surgical writers on this subject will endorse these opinions and when the evidence is clear that the appendix is diseased I concur in it, but the profession has knowledge of thousands of cases, like the one reported in this paper, in which they have symptoms strongly suggesting involvment of the appendix, but without the localizing of signs necessary in my opinion to justify an operation.

What I am struggling with is the question: Is there a pre-inflammatory stage that can be with reasonable assurance recognized? Granting that we may discover this prodromal stage, can we decide that it always goes on to serious inflammation, or does it even in the majority of cases stop and a perfect recovery occur, or does it leave the patient with a

sword of Democles suspended over his abdomen? If we believe the last, we would all decide upon operation at the earliest possible moment.

In an article in the *London Lancet*, November 19, 1904, the writer says about appendicitis: "Any man, who has been in general practice for even a few years, must be able to look back on some cases of this most anxious and dangerous affection. If his experience is at all similar to mine, he will be unable to recall a single instance in which he advised operation too soon, but more than one perhaps in which it was done too late."

Do the facts at our disposal maintain the statement that an appendix once inflamed is a constant menace? I do not believe so. I believe of necessity there can be no positive demonstration of this fact. How many persons suffer from severe, acute abdominal attacks and escape through long years any further trouble. Of course no sensible person would suggest one attack confers any immunity, however, I believe just as reliable statistics could be gathered to uphold the one proposition as the other.

Now as to the appendix being the useless remains of a former necessary organ. Possibly we are evoluting the appendix out of existence. Theorists say so. They also say we are evoluting the little toes and the little fingers. Their arguments don't satisfy me.

Sir William Macewen in his Huxley address (1904) said about the vermiform appendix: "Though as life advances it undergoes, in three or four per cent. of cases, total occlusion of its lumen, it presents a well marked glandular structure with lymphoid nodules and secretes a fluid that is probably an adjuvant in the later stages of intestinal digestion."

Some writers suggest that the appendix is the culture ground for the intestinal germs which some say are necessary to complete digestion and assimilation, but that others claim are only a menace to the life of their host. I do not think that because we are not certain of the action of an organ we should therefore assert that it is useless. Many surgeons have taken the position that the appendix is useless and should be removed whenever the abdomen is entered, even though it were apparently in a normal condition.

The critic of the *London Lancet* commenting on William Henry Battle's late work, "The surgery of the diseases of the appendix, vermiformis and their complications"—

"The differential diagnosis of acute appendicitis from peritonitis is often far from easy. The greatest skill and experience may be required to distinguish an inflamed appendix from other conditions that similate it."

As a summary to this subject, I state, risking tedious repetition, the points that I would be glad to hear discussed:

First—Do we have functional derangements similating inflammatory lesions so closely that at times it is impossible to differentiate between them?

Second—Without a reasonable assurance of inflammatory involvment should we advise abdominal section?

Third—Is there any one single condition sufficient to decide this subject?

DISCUSSION.

DR. MORRIS: I do not think there could have been a more appropriate or more interesting subject for discussion than the one Dr. Marshall has presented. Certainly the subject is one that interests the practitioner as well as the surgeon. We all see these abdominal troubles, and to be able to determine the character of the disease with which we are dealing seems to me to be a very desirable thing.

I think you will all bear me out in the statement that we meet with cases of abdominal trouble that we do not understand and we later find that we were mistaken relative to the condition, and I feel that we all neglect to some extent the studying and the careful investigation of this line of our profession. I doubt very much whether there are any of us who devote the amount of time to the diagnosis of these troubles that we should devote. If you will allow me to fully illustrate the position I take in this matter I will cite a case that came under my observation. The patient was a very vigorous man of twenty-eight years. He had never been sick in his life, had never taken a dose of medicine as he told me. I was called to see him one evening and found him suffering great pain in the abdomen. It seemed to be a general pain over the entire abdomen. He had no fever and his pulse was a little above normal. I failed to determine the cause of that pain after I had gone over the entire abdomen and I gave him as we usually do something to relieve the pain which failed. I saw him later and gave morphine which failed to relieve his pain; I repeated this four times in twelve hours—a quarter of a grain at a dose.

I asked for consultation and Dr. Schachner saw the case with me. He made a thorough examination, the man complaining of continuous pain in the abdomen. It went on and after a short time we decided to open the abdomen and see if we could determine the cause of this pain. Preparation was made for the operation but the patient sank so rapidly that the operation was postponed. After death we held a *post mortem* and opened the abdomen and took out everything—the stomach, intestines, liver, gall bladder, kidneys, ureters—everything, and we found no cause for the man's death; to this day it is an absolute mystery to us as to what caused his death.

DR. GRIFFITHS: I have two interesting cases to report, one in which a man had a fearfully distended abdomen and thought he had peritonitis and appendicitis. I examined him and found an enormous belly, flushed and anxious face—nothing in the world to indicate appendicitis in that disease. That fellow had a belly on him like an alderman. I thought

I would experiment; I did not; I gave a large dose of castor oil and turpentine and an enema of brown soap and turpentine, and the next morning he had an action filled with capsules of all sizes and shapes, containing medicine that had been given during the week before.

Last summer I was called to see a case that was said to be a case of appendicitis. When I arrived at the house the family heard me on the stairs and said "Hurry up, doctor, hurry up!" They were anxious and excited. He did not have an expression like that of appendicitis at all; no rigidity of the abdomen. I gave him calomel, rhubarb, etc., in large doses and an enema and after the bowels moved freely by passing large quantities of mince pie and Hamburg steak, he was relieved. His brother was a medical student and he had consulted another physician and had "looked up the authorities" and he said it was appendicitis. If he had appendicitis I had relieved him of it—a five hundred dollar operation—by the simple treatment I adopted.

In a great many of these cases of suspected appendicitis if we would use the old-fashioned remedies we could save trouble.

I had a case that presented symptoms of appendicitis, and I had the pleasure of consulting with Dr. Wathen. I asked him what the trouble was and he said he did not know. This man had suffered for days with suspicious pains of the abdomen. The patient got well in spite of both of us.

There is a great deal of the latter day cutting that I do not believe in. I have been present at operations where the surgeons have said the appendix is of no use and ought to be off. God never makes a mistake, it was put there for some good purpose. I believe hundreds of cases can be relieved by the old remedies.

DR. J. R. WATHEN: I enjoyed the essay very much. Dr. Marshall has given us many points to think about. As the subject has largely drifted toward that of appendicitis, I would simply like to say a few words along that line. As the doctor has said statistics are unreliable and largely depend upon the personal equation of the individual man who is collecting them. In fact one prominent operator in this country remarked at a National Association Meeting that he did not expect any one to believe his statistics because he did not believe those of others.

Now, in regard to determining the cases that should be operated on and the cases that should be left alone, my idea is that we should draw our conclusions from those men who have had the widest operative experience along this line. One man, Dr. Deaver, of Philadelphia, claims that we should operate on every case seen, early or late. But the collected statistics of a man like Sohnenburg, of Berlin, who in twelve months reported over 1400 operations, and a man like Oschner, of Chicago, who also reported a large number of operations, should furnish us something from which we can draw conclusions. These men reported the lowest mortality of any men. They say that we should operate on

every acute first attack, provided we see them in the first thirty-six or forty-six hours. If we do not see them within that time and they go beyond that time, then it should be treated on medical lines, unless there is a localized and superficial abscess which should be opened as in any other similar condition.

I was hardly willing to accept the teaching of Oschner a few years ago when he presented it; but I had a case sent to me from Bowling Green, Ky., which was a typical one for this treatment. The man had had a first acute attack; I saw him on the eighth day; temperature elevated and pulse rapid. I followed Oschner's treatment, washing out the stomach, washing out the bowel and placing a large ice bag over the abdomen and fed him with predigested foods and used saline solution by the rectum; I did not allow him to take one teaspoonful of water by the stomach. Oschner claims by this treatment the lowest mortality of any man in the world; he claims furthermore that the pain in appendicitis is not due to the inflammation so much as to the peristalsis of the intestines.

I entered upon this treatment a skeptic, but I must say in the first twenty-four hours the temperature was nearly normal and also the pulse; the pain had entirely left him and he was feeling splendid. I kept it up for two or three days and thought it was a turn in the disease. I then began to administer soups and I noticed a return of the symptoms as before. I again resorted to the treatment a second time and at the end of two weeks I thought he was ready to begin with regular food; the symptoms again returned and I began the treatment again and kept it up thoroughly and the man left the infirmary perfectly well. Of course I advised him to take good care of himself and later receive surgical attention.

In view of the statistics of Sohnenburg and Oschner, who have operated on more cases than any two men in the world, and who have reduced the mortality fifty per cent. lower than any men in the world, we are bound to accept their teachings.

DR. IRWIN: I was interested in the paper and in listening to the discussion. While the essayist was reading the paper I recalled a book I had read, "Williams' Principles of Medicine." The essayist dealt practically along the same lines in his paper and he has given us a great many points to think about. He has spoken of a great many troubles that could occur and do occur within the abdominal cavity, and were it not that I am limited to five minutes I would like to take up an hour in discussing those troubles. I will briefly refer to a number of points. Some of the disorders may occur and I believe we may have no fever until after they exist for twenty-four hours or longer; others have fever from the beginning. For a long time I have asked myself the question, "what is the condition going on within the abdomen?" Even long before the years of appendicitis and since then more so than ever.

I will refer to a case that came under my care five weeks ago last Sunday. The patient had an attack of abdominal colic and distention of the ascending colon. Three or four months previously he had suffered from stomach trouble. I saw him again on Monday morning and he then had a well developed attack of peritonitis. After treating him for two or three days I found some apparent fluctuation in the lower part of the abdomen and I advised consultation with some abdominal doctor. A prominent surgeon was called in and after careful investigation he reached the conclusion that he undoubtedly had appendicitis and that the appendix ought to be removed. I assured him that I had found no trouble with the appendix. He said it was impossible to tell whether there was fluid there or not. This man has been under treatment for a week and his recovery has been rapid; the effusion has disappeared, the peritonitis has disappeared and he is taking food without discomfort.

DR. SAMUEL: Was there a tumor in the neighborhood of the appendix?

DR. IRWIN: Not in the neighborhood of the appendix, but in the lower part of the abdomen. I mention this to show that there is no evidence of soreness in the region of the appendix in this patient.

DR. ABELL: The paper presented by Dr. Marshall is an interesting one, and as some of the previous speakers have said there are many acute abdominal disturbances, excluding the cases which he classes as operable or plainly operable, as strangulated hernia or obstruction which are easily recognized. His question at the termination of the paper brings us into a land from which it is not easy to see our way out. I am sorry he did not give us his conclusions in regard to this question instead of asking us for our's.

There are to my mind four symptoms that I have found of benefit in determining whether the case is one of simple disturbance in the abdomen or one that called for further treatment. These are, pain, localized tenderness, tumor formation and rigidity of the muscles over the affected point. As Dr. Marshall stated there are many functional disturbances or those connected with intestinal intoxication that disappear under eliminative treatment. But if infection is present I do not believe it will readily subside under treatment. As to the further indications in the case it would necessarily be along the lines of expectant treatment which, as you may judge from the previous discussion, is not clear as regards appendicitis. Once given the diagnosis of the condition of the appendix, it would lead me, if it were my own cases, to subject it to removal.

DR. W. H. WATHEN: I think that Dr. Marshall's paper is one of the most valuable that we have had presented to this society. The mastery of the subject and the absolute fairness in which he presents it from the medical side is commendable. There is no denying the fact that there are many cases of acute intestinal troubles that die because of the ignorance of the

attending physician or his determination that they shall not be operated on. The most encouraging feature is, that to-day our medical authors and the best abdominal surgeons are practically agreed upon the same thing, namely: When you make a positive diagnosis that there is an attack of appendicitis—that there is a well-developed appendicitis—operate in every case; but you must be sure that you make your diagnosis. There are cases with symptoms that escape the attention even of the most experienced physician in the treatment of appendicitis. There are cases that have none of the classical symptoms of appendicitis at all. I have been called with a number of gentlemen in this room in such cases and we did not operate. There are other cases where I have operated not knowing that there was an appendicitis and not even suspecting the appendix diseased. I have in the hospital a woman that I operated on the other day for the removal of a cyst and there were extensive adhesions about the appendix. She had had no symptoms of appendicitis that she could remember. I have a lady at the hospital upon whom I operated four days ago, removing a large fibroid tumor. I found the appendix distinctly diseased in the chronic form, upon which acute disease may have any day developed; there were never any symptoms of appendicitis.

I operated on a man last Saturday for gastro-enterostomy, who had been suffering for six months, and found the appendix matted down in a mass of adhesions from end to end, and it was seven inches long. The adhesions were from past inflammation.

Now, in none of these cases were there any symptoms of appendicitis. Therefore, what is our duty? The surgeon should operate in every instance where it is indicated and should not operate if he does not think it is best. It behooves us to unite our efforts in making a diagnosis. The surgeon should consult the physician and the physician should consult the surgeon.

Now, in conclusion, in cases of positive symptoms of appendicitis we should operate. Of course we should operate always in obstruction of the bowels. To discuss this subject in all its phases would take hours, but I make this statement that the most encouraging feature is that the best surgeons and the best physicians are practically unanimous in all questions relating to the treatment of appendicitis.

DR. LEAVELL: I wish to endorse the sentiments of the previous speaker in regard to the paper. I am glad that he put the medical side of the subject before the society. We, as general practitioners, must admit that we have been unable to make a diagnosis of intra-abdominal lesions. If surgeons had not cut down on the gall bladder or the appendix we would still be in the dark as to what causes the acute abdominal pain. There is no doubt but that the surgeon is responsible for making a diagnosis of intra-abdominal lesions. I do not think it is right for the general practitioner to lock horns with the surgeon and try to prevent

him from operating when he knows that it is his bounden duty when he sees a case of appendicitis. If every case of appendicitis is surgical there is no medical treatment.

That there are functional disorders existing in the peritoneal cavity I do not think any one will doubt. But it is astonishing to me, after two or three years' looking into these troubles very closely, that in many of the cases of indigestion that come to my office for consultation and careful examination I find a tender gall bladder, and frequently I find that there is some rigidity of the muscles over the gall bladder, and often I find in these so-called functional cases some pain on deep pressure in the region of the appendix, and I have almost come to the conclusion that we have to deal with an inflamed appendix, gall bladder, or some contiguous organ.

As for Oschner's treatment of appendicitis spoken of so highly by Dr. Wathen, I think that the application of the treatment is a matter of judgment and it is there that most practitioners are apt to err in its application. There are very few men, I take it, that will apply the treatment in a satisfactory way as Oschner himself applies it. No doubt there are many cases of appendicitis that should be tided over by this method, but when we attempt to do it many of us are getting into dangerous ground. We have seen cases of so-called mild appendicitis and when the abdomen was opened the appendix was found gangrenous and distended with pus and ready to rupture. I have operated on a few cases and found such conditions. The more I see of appendicitis and the more I operate for appendicitis the more am I convinced that there is no medical treatment for it. We should not lock horns with the surgeon, but should try the life-saving plan and not attempt to apply ice bags and wash out the stomach when we are sure that the operation will be successful.

DR. E. S. ALLEN: I am sure that every member of the Society has enjoyed Dr. Marshall's very interesting paper. I believe that the appendix when inflamed becomes a most dangerous organ. However, I think we frequently have a painful condition of the appendix without appendicitis; for instance, a scybalous mass may pass into the lumen of the appendix and act as an irritant, stimulating the muscles to intense peristalsis; this gives rise to colicky pains in this region, and if this irritant remains here any length of time we have an active hyperæmia resulting which necessarily causes a great deal of pain from pressure; if nature forces this mass out of the appendix we have a cessation of the pain. If the foreign body remains in the lumen of the appendix long enough the epithelial cells will become devitalized and then they do not act as a bar to infection, for we know that the colon bacillus is unable to get into the tissues as long as the cells lining the mucous membrane are intact. But if the bacteria get out into these tissues they produce an inflammation which nature is able with her white blood cells to ward off to some extent. But there is always death of tissues, which nature re-

pairs with leucocytes, and by a karyokinesis of local tissue cells—(we call this new tissue embryonic tissue); and this embryonic tissue terminates in cicatrical tissue which interferes with the nutrition to the distal end of the appendix; therefore, an appendix once inflamed is more apt to become inflamed again.

I am of the opinion that careful blood examinations will aid us in differentiating between functional conditions and typical inflammations, because it has been demonstrated to us that where we have an infection that nature can take care of, if we make an examination of the blood, we find a leucocytosis of the poly morpho nucleor neutrophiles. But when dealing with an infection that is virulent, nature sends out another force of cells known as eosinophilic leucocytes which possess greater bacteriolytic powers. I think in this way we are able to differentiate to a degree at least between functional disorders and typical cases of inflammation.

DR. SAMUEL: I enjoyed the paper extremely myself; I have nothing to add. I do not remember exactly the three propositions of Dr. Marshall, but one point in his paper makes me feel that it is possible for the appendix to be removed when it is not inflamed. As to the honesty of the surgeon no one can say. I believe that the most honest surgeon might make a mistake.

To the first proposition I can answer yes, that we do have functional troubles in the abdominal cavity. I believe that in the majority of cases appendicitis can be diagnosed from other abdominal lesions and extra-abdominal lesions such as of the kidney. I believe the symptom-complex is so well marked clinically speaking that we can make a diagnosis. Gall stones may remain for years without giving any symptoms, but as soon as infection occurs then clinical symptoms begin. Appendicitis is not to be regarded in any sense as a medical lesion; it is a surgical lesion. The question hangs on the differential diagnosis.

I believe I have operated for appendicitis as many times as any surgeon here and have examined the appendix many times while operating for other conditions, and have found adhesions where the patient never gave any history of having had appendicitis. Unless the infection begins in the lumen of the appendix I do not believe that the condition would be recognized except where the contiguous tissues were broken down and we would have gangrene of the appendix there just as we have .....by contact. The appendix being twisted does not mean that there is going to be trouble at all. It is when infection gets into the appendix that it gives trouble. I do not know what Dr. Marshall means by catarrhal inflammation. When infection occurs on a mucous surface we speak of it as a catarrhal inflammation; when it occurs in the abdomen.....; when it occurs in a joint we have an effusion, that is all that it means. I believe that appendicitis is an infection; it is often

the result of mechanical irritation from impacted fecal matter or an enterolith.

I agree in the main with the proposition of one of the previous speakers that, in strangulated hernia and intestinal obstruction, an operation should be done. I do not know that any one symptom could be given as a diagnostic means to differentiate either.

Dr. Allen has gone fully into the pathology of appendicitis. The third proposition would be hard to answer. In fact I am not quite clear as to what your meaning was in making that proposition.

DR. WILLMOTH: I would like to say a few words as the discussion has taken up the subject from the standpoint of the physician and the surgeon. It strikes me that all cases fall in one of three classes: First, where we get a history of the patient eating something as ice cream or some other substance. Second, where we are safe in saying that there is some inflammatory condition present, and then the third class where there is a question in the mind of the surgeon as to what the condition is. It strikes me that in this age and time there is but one thing to do in this third class. With perfect asepsis we know that a two-inch incision in the belly only means putting the patient to bed for a few days, and in myself, if the practitioner said he did not know and the surgeon said he did not know, I should want an operation performed. If a functional trouble, no harm would be done, and if a surgical trouble, I would be benefited by it.

DR. MARSHALL (*closing*): If the society will bear with me I will read these three propositions again:

First—Do we have functional derangements simulating inflammatory lesions so closely that at times it is impossible to differentiate between them?

Second—Without a reasonable assurance of inflammatory involvment should we advise abdominal section?

Third—Is there any one single condition sufficient to decide this subject?

I stated that an organ consisting of mucous membrane, covered by peritoneum, differed only as to degree in inflammation. If this organ became inflamed it would simply differ in degree. I restricted it to the appendix. Could we not have a functional trouble going on for a certain time break down with peritoneal involvment?

ALBUMINURIA: ITS SIGNIFICANCE AND ITS DETECTION.

BY WILLIAM A. JENKINS, LOUISVILLE, KY

FIRST—ITS SIGNIFICANCE.

SINCE the classic observations of the celebrated English physician, Dr. Richard Bright, the significance of albumin in the urine has always been a pertinent and an important question, both from the standpoint of the physician and the physiologist. To present and to understand this subject thoroughly then, it will be necessary for us to take cognizance of all possible ways by means of which albumin may gain entrance into the urine; to ascertain the degree and extent to which albuminuria is pathologic; to discuss and decide whether the presence of albumin in the urine is ever without pathological significance. (The so-called physiological or functional albuminuria of the older writers.)

Physiologists tell us that the four proteid substances which are normally found in the blood, viz: Serum-albumin, serum-globulin, fibrin, and haemoglobin, are under certain conditions found in the urine. Of the above group, the chief interest of the general practitioner centers around serum-albumin. Serum-albumin then may be defined as a proteid substance, non-crystallizable, or colloid in character. It will not under ordinary circumstances pass through an animal membrane. According then, to the modern physiological conception, certain alterations or departures from the normal conditions are necessary before this substance can penetrate the basement membrane of the kidney tubules and make its appearance in the urine.

The first type of albuminuria to which I call attention is albuminuria due to structural change in the kidney, inflammatory, followed by degenerative changes with shedding of the specialized epithelium lining the uriniferous tubules. This is probably the type that would come into our minds first. And it is certain that, clinically speaking, it is the commonest and most serious form. We know that it is not possible in all cases to judge accurately the amount, character, or gravity of the changes taking place in the kidney by the amount of albumin in the urine. In the early inflammatory stage of acute Bright's disease (acute parenchymatous nephritis) the amount of albumin does furnish a fairly reliable estimate of the gravity of the pathologic changes going on. The same thing is true of the inflammatory stages of chronic parenchymatous nephritis. This is particularly true of that subdivision of this class known as the large white kidney. On the other hand, the small mottled or cirrhotic kidney, which in a large majority of cases safely passes the acute inflammatory stage, and enters upon a stage, the changes of which resemble the kidney of chronic interstitial nephritis; in this last case, the amount of albumin present is not a trustworthy indication of the

* Read before the Academy of Medicine, of Louisville, Feb. 1st, 19[illegible]

amount of damage going on. Finally, in chronic interstitial nephritis, the patient may go for weeks at a time without albumin being present at all; and yet he may have badly damaged kidneys. His urine is increased in amount; of less specific gravity; light color; decrease of urea and all solids, and it may contain an occasional cast. Marked and grave cardio-vascular changes may be present, e. g., great hypertrophy of the left ventricle apexbeat looking downward and outward from the normal point, reduplication of the first sound (gallop rythm of Musser); second sound accentuated, general arteriosclerosis present, well marked uremic attacks possible at any time. Certainly in this class of cases the quantitative albumin test is practically *nil*.

Second.—Albuminuria due to changes in the constitution of the blood, said changes so altering the diffusibility of the albumin as to permit it to pass into the tubules and appear in the urine without any ascertainable kidney lesion, at least at first. If the condition be long continued, cell integrity is finally overcome. We notice this type of albuminuria in chronic anaemias. If the disorders of malnutrition, e. g., scurvy, struma, in the cachexias, in the so-called hydraemic states of enfeebled individuals, fevers and the infectious states with their micro-organisms. These micro-organisms in all probability act not only by producing changes in the composition of the blood, but also by affecting the integrity of the cells along the uriniferous tubules.

Semmola is a warm adherent of this explanation of albuminuria. He believes that even in Bright's disease the primary change is in the blood, and the organic kidney changes are secondary to, and dependent upon the blood changes.

Third. — Albuminuria due to changes in blood pressure. These changes must, to meet the conditions of the problem, affect the blood-vessels of the kidney and also the general circulation. Generally speaking, they must accelerate the arterial current or retard the venous current. Instances of this type of albuminuria are furnished by prolonged fatigue, excessive muscular exercise, e. g., soldiers on forced march (Leube found it in sixteen per cent. of cases under above circumstances), prolonged application of cold to the surface, and nervous derangements which interfere with vascomotor control, e. g., after epileptiform seizures. And lastly, carefully conducted experiments on lower animals have conclusively proven that blood-pressure changes will produce albuminuria.

We now come to that part of our subject which has heretofore proven a serious stumbling block, viz: A type of transient or intermittent albuminuria. Pavy calls it the albuminuria of adolescence. Others speak of it as physiological or functional albuminuria. It may show without any apparent cause or after exercise, fatigue, or after the ingestion of large quantities of albumins. It is generally intermittent in character. The quantity is usually small. As a rule there is absence of casts, blood

and degenerative elements; slight or no change in specific gravity; no evidence of cardiac or blood vascular changes. The causes of this type are practically those given above, only they are acting in milder degrees. And if the observer use due diligence and care, he is sure to find the cause. Consequently then, we affirm that all cases of renal albuminuria are tracable to three great causes, acting singly or jointly, viz: 1st, changes in the renal structures. 2nd, qualitative alterations in the blood. 3rd, alterations in blood-pressure. *Finally we venture the assertion that whatever changes of blood-pressure or blood composition are present, they must act upon and alter in a certain degree* (*not always beyond repair*) *the integrity of the cells lining the uriniferous tubules, before it is possible for albumin to pass the barrier and gain entrance into the urine.*

Thus we see that albuminuria is a symptom of varying clinical value. We are convinced, however, that is always of local or general pathological import; that the patient invariably presents some departure from the normal standard of perfect physical health. The gravity of the process must be determined by a careful investigation and weighing of the accompanying clinical symptoms and physical signs. The presence of albumin can only be accepted as positive evidence of kidney lesion when cellular elements and debris characteristic of the kidney are shown by the microscope.

Up to this point, we have considered only that form of albuminuria which has as its source the kidneys, or renal albuminuria. We now call attention to extra-renal albuminuria: Adventitious, false or accidental albuminuria. In this type of cases, the urine on leaving the kidneys is normal, but it meets with the products of inflammation in the lower urinary passages, e. g., ureters, bladder and urethra. The source of the albumin in these cases is to be determined by the following considerations: 1st, local examination of the urethra and bladder with the endoscope and cystoscope. 2nd, the clinical symptoms and physical signs; 3rd, a thorough urinalysis, both chemical and microscopical.

SECOND—ITS DETECTION.

First.—The urine must be perfectly clear (if possible) before the tests are applied. If it is not clear, steps must be taken to render it clear. The procedure necessary will depend upon the nature of the substance producing the turbidity or cloudiness. Filtration through a good filter paper (you having previously placed a pledget of clean absorbent cotton in the bottom of the filter cone) will remove practically everything except excess of earthy amorphous phosphates, urates and micro-organisms, e. g., micrococcus ureae (an alkaline urine). If your specimen is clear after above method of filtration, you may proceed with your tests for albumin. If it is not clear, it is due to one or a combination of the above mentioned causes. If the turbidity is due to urates, the application of heat to a small quantity in a test-tube will immediately clear it

up. If the turbidity is due to earthy phosphates, heating tends to increase it. But it will be cleared up by adding nitric or acetic acid, preferably acetic acid, a few drops at a time, gently heating and watching the effect. (Earthy phosphates are not precipitated in normal acid urine, only in neutral, or alkaline urine). If the earthy phosphates are in excess, they may be removed by adding to the specimen one-fourth volume of potassium hydroxide, slightly warming, so that the test-tube feels warm to the hand. (Do not boil, or you will precipitate the albumin). Or possibly it would be better for the inexperienced examiner to avoid the use of heat altogether in this test. Simply add the one-fourth volume of potassium hydroxide, shake thoroughly, and allow it to stand for twenty minutes, by which time you will have thoroughly precipitated your earthy phosphates, then filter. Now you should have a clear urine if the cloudiness was due to earthy phosphates. If the urine is still cloudy, you place a drop of the specimen under the microscope, and the micrococcus ureae, if present, is at once recognized. If you even suspect its presence, from the history of the case (cystitis), or from the re-action of the urine (alkaline commonly), you may try the microscope before you make the earthy phosphate test. If the micrococcus ureae is found, no further effort should be made to render the urine clear, as it is impossible under ordinary circumstances. The micro-organism will pass the best filter paper, and it is unaffected by ordinary chemical agents. So in this case we shall have to make the test regardless of its presence. The centrifugal machine may be used in lieu of the filter. Now subject your clear urine to the following standard tests, all of which are based upon the coagulability of the albumin: First, the heat test. Fill an ordinary clean test-tube one-third full of clear urine; the urine must be acid in reaction; if it is not acid, add a few drops of acetic acid to render it acid. (Or if you have added potassium hydroxide to precipitate the phosphates, enough acetic acid should be added to render it distinctly acid to litmus paper). Now heat the specimen over your alcohol lamp or Bunsen burner, holding the tube in such a manner as to boil only the upper portion of the urine. This procedure permits of comparison by giving you two strata. Any cloudiness that appears is due either to albumin or earthy phosphates. To decide the nature of the precipitate, from an ordinary pipette, allow a few drops of nitric acid to flow down the side of the tube into the urine. If the cloudiness is due to phosphates, it is immediately cleared up. If it is due to albumin, it remains unchanged.

Second.—Nitric Acid Test.—I make this test as follows: A test-tube of the smallest calibre and about three inches in length is chosen. Into this tube without contaminating the sides, chemically pure nitric acid is carefully dropped to the depth of one-half inch. Then with a long pipette (at the same time holding your test-tube containing the acid at a slight angle) allow the urine to flow down the side of the tube until you

have as much urine as you have nitric acid, viz., one-half inch. If sufficient care is used in making this test, the two fluids are not mixed. But the urine is super-imposed upon the acid, and this is just what you want. The tube is now placed in the rack and allowed to stand for a few minutes, five to ten, at the end of that time, albumin, if it be present, appears at the point of contact of the two fluids, as a white opelescent band or zone, varying in thickness, of course, with the amount of albumin present. In concentrated urines, sometimes a faint white haziness may appear above the point of contact, or all through the urine, due to insoluble acid urates. Now pass your tube over the flame of your lamp a few times; if the ring of haziness disappears, it is due to urates; if it is unaffected, it is due to albumin.

Diluting the concentrated urine with an equal volume of water precludes the possibility of the separation of the acid urates. Now as to the errors to which the heat and nitric acid tests are subject: Prof. Purdy mentions that if albumin is present in small quantities, and acid is used in excess, the albumin may combine with the acid and thus form a soluble acid albumin, which is not precipitated by boiling. Again, he says if the phosphates are in excess and sufficient acid is not added, only part of the phosphates are thrown down; the rest combine with the albumin, and form a soluble alkali albumin, which is not precipitated by boiling. Now as to the acid albumin: We boil the urine first, then add the acid, drop by drop. Thus we prevent the possibility of the occurrence of this reaction.

As regards the alkali albumin: Whenever the phosphates were in excess, we advised their removal by the potassium hydroxide and filtration method given above. Then you were to add acetic acid until the reaction was distinctly acid to litmus paper before you made the albumin test. And thus we negative this objection. Finally I am convinced that the above mentioned reactions are in no way capable of marring or detracting from the value and practicability of the heat and nitric acid tests if carried out with care according to the above directions. Again, they tell us that other members of the proteid group besides albumin are thrown down by the heat and nitric acid tests, e. g., serum-globulin and mucin, or nucleo-albumin; and occassionally the pine acids if the patient has been taking cubebs of copaibae.

Let us take them up singly. 1st, the cloudiness due to the pine acids. We have the history of the patient taking cubebs or copaibae, and the fact that the precipitate is readily soluble in alcohol, while alcohol has no effect on albumen. 2nd, mucin and nucleo-albumin. (Some authors regard them as distinct substances, others as identical). In certain conditions, e. g., catarrhal affections of the lower urinary tract with great epithelial desquamation; and in addition to this if we have used acetic acid to acidify the urine (acetic acid precipitates both mucin and nucleo-albumin) we occasionally get a reaction which might very plaus-

ibly be mistaken for small quantities of albumin. This, however, requires a combination of favorable circumstances, and it is not likely to mislead us if the nitric acid test is carefully tried alone. And, speaking from a chemical standpoint, mucin and nucleo-albumin are exceedingly hard to detect. 3rd, serum-globulin. This substance is practically always associated with albumin; in significance therefore, it is identical with albuminuria. (To detect serum-globulin, the urine must be neutralized then filter, then add at an ordinary temperature magnesium sulphate in substance up to saturation). A white precipitate signifies serum-globulin. A saturated solution of ammonium sulphate may be used instead of the magnesium. In the last case, if urates are abundant, you get a precipitate of ammonium urate. It takes, however, a much longer time for the ammonium urate to be precipitated, and this differentiates it from the serum-albumin, which is thrown down quickly).

Third.—Professor Purdy's Sodium Chloride and Acetic Acid Test.—Have on hand the following solutions: No. 1, A saturated solution of sodium chloride in distilled water. No. 2, a fifty per cent. acetic acid solution in distilled water. Fill a clean test-tube one-half full of clear urine. Add to this one-sixth its volume of your sodium chloride solution, shake and then add five to ten drops of your acetic acid solution. Now hold your test-tube over the flame in such a manner as to boil the upper part of the contents of the tube. If albumen is present, even in minute quantities, it shows as a white haze or cloud; this is a very delicate and accurate test, and is supposed to differentiate albumin from other proteids in the urine. When the salt solution is added first, as in the above test, both nuclein and nucleo-albumin are held up in solution in the presence of heat and acetic acid.

Fourth.—The Potassium-Ferrocyanide Test.—Have on hand the following solutions. No. 1.—Potassium-ferrocyanide, one part to twenty parts of distilled water. No. 2.—Acetic acid fifty per cent. strength (in distilled water). Fill a test-tube one-half full of clear urine, add one-half to one dram of the potassium-ferrocyanide solution, mix thoroughly, then add a few drops of your acetic acid solution. Allow test-tube to stand for from one-half to two minutes, at the end of which time if albumin is present it will show as above. This test may be modified as follows: Into the bottom of a clean test-tube is poured one dram of your acetic acid solution. Next add an equal amount of your potassium-ferrocyanide solution, mix thoroughly. Then from a long pipette allow urine to flow gently down the side of the tube and overlay the reagent to the depth of one inch. Within one or two minutes, if albumin is present, a white cloud or zone is noticed.

This test precipitates all modifications of albumin. It gives no reaction, however, with phosphates, peptones, mucin, alkaloids, urates, or the pine acids.

The four (4) tests mentioned above and described in detail are prac-

tical, satisfactory and sufficient for the detection of albumin in the urine. I shall close this article by giving one practical, fairly accurate, and easily performed test for the approximate estimation of the quantity or per cent. of dry albumin present.

The presence of albumin having been ascertained by the methods and tests given above, (and other abnormal constituents, if present in sufficient quantities to impair the test, having been separated out or removed), the clear urine is then thoroughly and carefully boiled and allowed to set aside for twenty-four hours. (This procedure coagulates the albumin and it collects at the bottom of the tube). And its quantity is interpreted as follows by volume.

"Slight turbidity at bottom of tube, ...0.01%
1-20 of the tube is filled, ...0.05%
1-10 " " " 0.10%
¼ " " " 0.25%
⅓ " " " 0.50%
½ " " " 1.00%
Complete coagulation 2 or 3%."

DISCUSSION.

DR. FRAZIER: It seems to me that Dr. Jenkins has no reason to apologize for the subject of his paper. It is one that is always interesting and especially so at this season of the year, as kidney diseases are worst in cold weather, particularly when la grippe is as prevalent as it has been this winter. In several cases I have seen lately albumin has been present in the urine for several days, in some instances even giving cause for alarm, but clearing up very nicely as a rule.

I hope some of the gentlemen following me will discuss how much destruction of the kidney takes place in uremic poisoning; also in regard to uremic poisoning complicating Bright's disease.

DR. MANNING: I would like to mention a very simple and desirable instrument for making tests of the urine for albumin; namely, the horismascope which precludes the possibility of mixing the nitric acid and urine in the nitric acid test. It presents the albumin precipitated in a white ring immediately above the nitric acid; the urates form higher up and do not come in contact with the nitric acid; the urobilin and coloring matter form immediately beneath the ring of albumin. It is a very delicate test and will generally show albumin in the urine that is very difficult to detect by any other means, and renders the examination much simpler than elimination of urates and earthy phosphates, and other means of clearing up the urine.

DR. HENDON: I desire to mention a test which was suggested to me by an emergency; I have never heard of a similar method being employed.

On one occasion I was called quite a distance in the country to see a

child who presented symptoms which were rather confusing; in fact, I could not determine whether it was Bright's disease, meningitis, or some other condition, the child being in a state of convulsions and coma. I secured some urine and placed it in a clean bottle which I found in the house and then had the bottle placed in a vessel of boiling water. I got precipitation and then added some apple vinegar which, however, failed to clear it up. I went ahead on the basis of acute nephritis. I carried a specimen of the urine to my office where the reaction was confirmed by more refined methods.

DR. ZIMMERMAN: We can hardly overestimate the importance of albuminuria as a means of diagnosing diseases of the kidney, but in a great many instances persons are rejected by life insurance companies on the ground that they have kidney trouble when there is really no evidence of kidney trouble aside from the presence of albumin in the urine, and it is difficult to decide just what significance albuminuria has in cases of this kind. Just the other day a young man came to my office complaining of pain and other symptoms in the neighborhood of the digestive tract, and told me he was satisfied he had kidney trouble and that he had been rejected by life insurance companies. I secured a specimen of his urine and upon examination found that it showed a trace of albumin, but a number of examinations failed to reveal any casts whatever. This young man is laboring under the impression that he has kidney trouble. Just how to deal with this class of cases, and whether the insurance companies are justified in rejecting them, is a question, although they almost invariably do so when albumin is present in the urine.

DR. J. K. FREEMAN: It has always seemed to me a curious thing how the kidney functionates. I believe our deficiency in knowledge as to the physiology of the kidney and its nerve supplies are responsible for our inability to do much good in cases of kidney disease. I have been studying the kidney for twelve years; it is still a mystery to me.

DR. JENKINS: I am sorry the paper did not elicit more discussion. In regard to the instrument mentioned by Dr. Manning for making the nitric acid test, it seems to me that if albumin cannot be detected by other and simpler methods we certainly could not hope to discover it by the method Dr. Manning refers to. The urine should always be cleared up as there might be several substances present which might so mar the reaction that we would not be justified in saying there was albumin unless these substances were removed beforehand. It is very easy, however, to prevent the urine and nitric acid from mixing.

The incident reported by Dr. Hendon illustrates the old maxim that "necessity is the mother of invention," and reminds me of the fellow who had occasion to use a stethoscope, and having no better instrument at hand, pressed into service a common glass lamp chimney, placing one end against the chest of the patient and applying his ear at the other end.

In regard to the amount of destruction which takes place in the kidney in ——— I believe that ——— may occur in any type of Bright's disease in any stage. Naturally, if there are a great many attacks of uremia, we judge that a corresponding amount of destruction is going on in the kidney.

DR. FRAZIER: Does uremic poisoning ever occur without albumin being present in the urine?

DR. JENKINS: I have never heard of it except in cases where ——— Speaking of the type Dr. Zimmerman calls attention to, I believe the theory of ——— is no longer accepted. The conclusions of life insurance companies are generally backed up by statistics. No person is rejected until they have been thoroughly and carefully examined, and those who are rejected on account of the presence of albumin in the urine will generally be found to have a history of scarlet fever or something of that kind. The presence of albumin may be due to one of three causes, namely: changes in the renal structures, qualitative alterations in the blood or alterations in the blood pressure. From whatever combination it comes it must change the integrity of the cells lining the.....

THE HYGEINE OF TUBERCULOSIS.*

BY M. F. COOMES, A. M., M. D., LL.D.

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MR. PRESIDENT AND FELLOWS OF THE CLINICAL SOCIETY:—Consideration of the possibility of stamping out or annihilating tuberculosis will always be an interesting subject for consideration by medical men so long as tuberculosis exists, hence it occurred to me that I could present nothing more interesting to you this evening. The hoards of the "White Monster" are now in full advance, and it is certain that nothing but the great advantages of modern civilization, and especially along the line of preventive medicine, in the way of sanitation and the education of the masses, will check him in his mad career.

Each year demonstrates that tuberculosis is on the increase. More thorough education of the people in matters pertaining to public health, and especially to that of preventive medicine, beginning with the children of the public schools. Teach them that the tubercular germ floats about in the dust, and that whatever harbors dust, such as carpets, upholstery, etc., should be kept out of the house as much as possible.

* Read before the Louisville Clinical Society, Feb 21st, 1895.

It occurs to me that a book should be written expressly on "Health and Sanitation," a large portion of which should be devoted to the subject of the precaution of tuberculosis, and adopted in all schools throughout the civilized world, and make it take the place of one of the readers that are now in use. If such a book were made to take the place of one of our advanced readers, say the fourth reader of the schools, the children when they entered upon the study of this book would be old enough to comprehend and appreciate the importance and gravity of the subject, in so much as it would give them to understand that their own existence and the continuation of their lives depended largely upon the knowledge thus gained, would be a great incentive to them to possess all of the knowledge possible concerning the subject of health and sanitation.

The sooner every man, woman, and child on the face of this green earth engages in battle against the "White Monster" the sooner will he be checked in his onslaught upon humanity, and if the war is kept up long enough his hoards will disappear altogether.

That there is more in a well-regulated diet, moderate exercise, and an out-of-door life than all of the drugs at our command, save the blood-makers, iron and arsenic, etc., cannot be denied. In short, sunlight, pure dry air and moderate altitude in a temperate climate, with a good diet, constitute the ideal treatment for the great majority of cases prior to the breaking-down stage, and medicines as such had best be eschewed in all such cases.

Intra-pulmonary Medication. — Dr. Burroughs, of Asheville, N. C., has done more to demonstrate the value of intra-pulmonary medication than all the rest of the profession. In fact, he was the first man to use the high-pressures, and to-day the compressed-air machines in his office carry 110 pounds pressure, and the medicated oils are in a measure forced into the lungs of patients in a manner that is surprising, to say the least of it.

Of course, it is understood that a pressure of 110 pounds, if carried directly into the lungs, would burst them and kill the patient, but the oil is passed through a metallic atomizer with exit for air so small as to cut down the force of 110 pounds, and at the same time give force enough to break the oil up and enable the patient, with a little education, to inhale these medicated oil vapors and fill the lungs and blow this vapor out with the expired air, and in this way the suppurating cavities are cleansed and disinfected. Where the cavities are not too extensive under this treatment the temperature goes down, the hectic flush leaves the cheek, and night sweats disappear and patients are benefited in a manner that is surprising. I must confess that I was an unwilling believer in this method of treating the suppurating cases until I witnessed results that were so overwhelmingly convincing that there was nothing to do but believe.

I am free to say that I have been greatly tempted to fit up a suit of

rooms and devote a certain portion of my time to the treatment of tubercular patients. I am sure that every one will agree with me that there is a great need for such an establishment here in the city, as there are so many people in this town suffering with phthisis that cannot get away, and their physicians would be only too glad to send them to some one who was prepared to handle them in a manner which would prove most beneficial to them.

CASE I.—Mrs. K. was brought to me on the — day of ———, 1904. Age fifty-six—tuberculosis history. Her right leg was amputated between the knee and foot seven years ago for the purpose of getting rid of tuberculous bones. She made a good recovery from this operation, and had no trouble until ———— of this year, when she began to cough and expectorate. When I saw her there was quite a cavity in one of her lungs, and considerable expectoration. She had lost considerable flesh and was very hoarse. Examination of the laryx showed the whole arytenoid space much swollen, and the surface looked as though it would break down in a short time. The membrane above the left cord was very odematous, as was that covering the cord; in short. the action of the cord was so interferred with that the woman could not speak above a whisper.

Treatment.—The local treatment of this case consisted in spraying the larynx three or four times a day with normal saline containing the minims of carbolic acid to the ounce. The constitutional treatment consisted in the free use of the cacodylate of soda pills—sangogen capsules, red wine and a good nutritious diet—particular stress was laid upon the very liberal use of butter and cream in every way that the patient could consume it. The blood makers were varied as the occasion demanded. The woman's voice is now almost normal, the swelling has all disappeared from the larynx, her weight has increased more than thirty pounds, and she is free from temperature.

The second case was that of a saloon keeper, who had been a liberal consumer of common beer and Rhine wine. He is now nearly fifty years old. I saw him in 1903, and found a small cavity in one lung and his bloody expectoration was loaded with the tubercle bacilli.

This patient received no local treatment; he was restrained from the use of common beer and Rhine wine and permitted the free use of claret wine at the noon meal and whiskey toddies when he wanted them. He also received the cacodylate and liberal diet of good rare beef steaks, milk, butter and other nutritious foods.

This man made a rapid and uneventful recovery, and is now enjoying the best of health so far as can be judged. He is able to attend to his business, sleeps well, and has an excellent appetite, and is able to take long walks without fatigue.

These two cases are typical of their kind, the first one, the larynx being seriously involved, and the second, the man was not apparently

sick to look at him, but the presence of the germ and the elevated temperature and small cavity in the lungs were things not to be overlooked; and yet, right here in Louisville, one of the most unfavorable climates in this country for such patients, these people made rapid recoveries, which goes to show what can be accomplished in arresting this disease when the proper effort is made.

DISCUSSION.

DR. FLEXNER: I wish to indorse the attitude the essayist has taken, and believe it is fully warranted by facts. In regard to the statement that tuberculosis cannot be cured in Louisville, the opinions of a number of renowned physicians could be produced to show that it can be cured in any climate. The weather here is nothing like as severe as that experienced in the Adirondacks, yet during a large part of the winter the patients are out in the open air. I believe it is largely a question of food, rest, and open air. It is the opinion of most men who study this problem that tubercular patients will get well in any climate, provided the conditions which tend to heal it are observed.

The important thing in tuberculosis is an early diagnosis, which should be made before bacilli are swarming in the patient. Only yesterday I saw a patient who unquestionably has incipient tuberculosis, with a temperature which in the evening goes to 101 degrees. He has been under treatment for malaria for a long time, and has swallowed a great deal of quinine, yet I believe that this patient, although very anemic and run down, will, if given a proper chance, make a complete recovery. I do not claim that all cases will get well, as some patients seem to have absolutely no vitality, and are able to offer very little resistance to the disease.

In regard to the use of serum, I believe that very little has been accomplished in the way of vaccinating against tuberculosis, but it has been proven that an immunity has been acquired by the use of the Maragliano serum in some cases.

DR. MARSHALL: I wish to endorse everything Dr. Flexner has said. My own experience in a clinical university has been that a large number of tubercular patients would improve a great deal under treatment, after which we would lose sight of them, as they believed themselves well. I remember one woman who was brought to me from the South, in the winter of 1889–1890, who had to be carried from the train to the carriage and from the carriage into the house. At the end of two months that woman was able to walk three-quarters of a mile without great fatigue. She returned to her husband with a letter from me stating that, if she returned to her old way of living, the result would probably be a rapid decline, while, if she continued her new diet and out-door exercise, she would make a complete recovery. This woman was again in Louisville last fall, and she now weighs thirty-five pounds more than when I first saw her.

In regard to the establishment of a sanitarium for tubercular patients, these institutions are generally too expensive for laborers and people of that class, but I believe it would be a very desirable thing for the city to establish, by means of tents in grounds of our present City Hospital, the open-air treatment for tuberculosis.

DR. MORRIS: I believe the essayist has struck the keynote of the problem when he refers to preventive treatment for tuberculosis; in fact, it seems to me that is our only hope of being able to do anything in these cases. More deaths are occurring in this city from tuberculosis than at any time during its history and it does not seem to me that much progress is being made relative to curing it.

In three cases which I have seen in the past three months I have been using a serum made by a well known firm and one of them, which I saw while the disease was still in its incipiency, seems to be improving, while the other two have not been materially benefited, but I have not been using it long enough to know what the final result will be. I merely mention it in the hope that some member of the Society may have some knowledge of the serum and its effects.

DR. GRANT: It occurs to me that the increase in the death rate from consumption may be due to the fact that the population of this country is constantly growing. The present management of consumption has certainly diminished the average number of deaths from this disease to some extent.

I have very little faith in medicines except those that build up the vitality of the patient, but I believe that the open air treatment, with proper food and rest, often does a great deal of good and will even produce cures. The most important thing is to make an early diagnosis, and after this is done get them out of this climate, especially during the winter season, to some place where they can get plenty of fresh air and proper food.

DR. GRIFFITHS: I remember the case of a foreman in a paint shop in this city, who had a cavity in his right lung, and had gotten to the broken-down period. His business kept him confined very closely, to a heated room used for painting and varnishing farm implements, so I induced him to go to a farm and form regular habits, doing a great deal of work in the open air. I kept him there for quite awhile, giving him large doses of tinct. ferri chlor. malt and cod liver oil all the time. The cavity healed up, he increased in weight, and finally came back here and went to work at his old trade. He soon began to break down again, however, and I sent him back to the farm again. He stayed there a little longer this time and improved a great deal, but came back, went to work in the shop again and died, deposit taking place in the other lung.

Another case was that of a clergyman who was having hemorrhage after hemorrhage. He expected death, and had made every preparation for it. He came to me for treatment. I got him out of bed and had him

live on the fire-escape in the sun or open air, and he improved so much that last summer he frequently drove and walked all over town. The open-air treatment in the sunshine will accomplish wonders.

I believe this climate is one of the worst on earth in which to attempt a cure for consumption.

DR. SATTERWHITE: The proper time to take charge of a patient and treat him for tuberculosis is when the disease is in its incipiency, and the question is to determine when a person has incipient tuberculosis. The ordinary indications are loss of flesh, increased circulation, and more or less elevation of temperature. Of course, these conditions do not always indicate positively that the patient has tuberculosis, but they are sufficient to arouse suspicion.

The serum treatment is in its infancy; we know that it can be relied upon to do some good, but I do not believe that tuberculosis, after it has reached an advanced stage, is curable. The most important thing is nourishment and fresh air.

DR. LEAVELL: I believe that doctors make a great mistake in sending all tuberculosis patients away from the city, irrespective of conditions, and that a great many of those patients could be kept here at rest with better results than are obtained by sending them away, necessitating long, tiresome railroad journeys.

Some three years ago a man about 23 years of age, who had been intimately associated with a sister and two brothers who had died of tuberculosis, came to me with an elevated temperature, hectic flush, contracted chest, humped shoulders, making altogether a typical case of incipient tuberculosis. This man came to my office every day for sixty days, taking from twenty to forty inhalations of oily solutions laden with creosote daily. At the end of that time I had the sputum examined and failed to find any evidence of tubercular bacilli, and repeated examinations, extending over a period of one year, failed to reveal the presence of any bacilli. He has now regained his normal weight, 172 pounds, and is in apparently perfect health. This is one case which was benefited right here in Louisville by the inhalation treatment.

Many of you will doubtless recall a physician of this city, who went to Concord, N. H. When he left here his temperature was 103, and he had thirteen hemorrhages in one week, four of them occurring in one day. He was carried there on a stretcher, and was taken from his bed and put in a position where he could obtain plenty of sunshine, and a short time afterwards was allowed to go out in the open air. He could not exert himself at all; in fact he could do nothing but rest. He was wrapped in heavy clothing and allowed to sleep in the open air. He came back here weighing more than he ever had before, entirely free from fever, and altogether a very healthy man. The medicine he had taken amounted to practically nothing, but he had the open air and plenty of it.

I believe, however, that tuberculosis can be treated as successfully in Louisville as anywhere else if the rules laid out at sanitariums could be observed.

DR. E. S. ALLEN: I agree with Dr. Coomes that a piece of beefsteak and sunshine are the armentaria with which we are to combat tuberculosis.

Generally when we are called on to treat phthisis pulmonalis, we are to deal with other micro-organisms than the tubercle bacilli. That the destruction of tissue, abscess and cavity formation, temperature and the like are sequelae to mixed infection, the pus producers. We now know that nature, if well nourished, can take care of most any tubercular infection.

When our tubercle bacilli are inspired and run the gauntlet of the columnar ciliated epithelial cells, and lodge in an alveola space in the apex of the lung, finding there a nidus such as heat, moisture, deficient oxygen, and a place of lowered vitality, they begin to develop, for they have indeed found surrounding and pabula favorable for their growth. A so-called catarrhal inflammation is set up, and there is a transudation of serum into the bronchioles, which soon becomes infected with streptococci, staphylococci, and saphrophytes. This exudate thus infected bathes constantly the tubercular area, which is devitalized tissue, liquefaction necrosis takes place, and the imprisoned tubercle bacilli are liberated in the bronchioles, and by areogenesis other alveola spaces are infected, and it is in this stage of necrosis that we are enabled to diagnose tuberculosis.

If by physical signs we could recognize the process before the mixed infection gets in, I feel that we could with better success combat the disease, for after this we are fighting the pus producess, and I am of the opinion that the streptolytic sera could be used to advantage.

I thoroughly agree with Dr. Coomes that we are in need of a sanitorium for tubercular patients.

During my service at the City Hospital I did not see a single tubercular patient go out of the hospital benefited, and on several occasions a patient with pneumonia or typhoid fever would occupy a bed just across the ward from the phthisis row, and this patient would recover from the primary disease, but in his convalescence would contract tuberculosis and frequently die in the hospital with acute miliary tuberculosis.

DR. BARBOUR: Like Dr. Allen, I believe it is almost equivalent to signing the death warrant of a phthisis patient to put him into one of the public wards at the City Hospital. It is really a shame that tubercular patients cannot be entirely separated from all other forms of trouble. In my opinion, with plenty of open-air and sunshine a great many of these cases can be cured. I have seen a number of cases which I believe have been cured by allowing plenty of outdoor exercise.

DR. WM. BAILEY: I disagree with Dr. Morris in his statement that there has been no improvement in the methods of treating tuberculosis. Probably the reason so many of us incline to the belief that the death rate from tuberculosis is growing is because the number of cases is more accurately reported now than formerly.

A well-conducted sanitarium is probably the safest place to put a person who is suffering from this disease, where the rules as to spitting, etc., can be enforced.

I believe there are a number of climates better than that of Louisville for the cure of tuberculosis, but, of course, a great number of patients cannot be sent away. I like a cold climate, with three or four thousand feet of elevation, and for that reason I favor Colorado very much, having sent many patients there with very good results, although a number have been benefited by the climate of Arizona and New Mexico. I believe it is a mistake to send a man where he will have no society and nothing to do but think of himself constantly.

I recall a patient I had about four years ago, the son of one of our wholesale merchants, who had a young wife and child, the latter about two weeks old at that time. He was subject to hemorrhages from the lungs, and a short time afterward examination was made of the sputum, and tubercular bacilli were found. I advised him to go away immediately, so his young wife courageously decided to go with him, leaving the baby in the care of its grandmother. They went to Arizona and stayed three or four months and at the end of that time this man weighed twenty pounds more than he ever had before, and all physical signs of any disease of the lungs had disappeared. He came back here, but decided that Arizona was a good place to live in, and returned there during the summer to make arrangements for buying a small ranch. While there he drank some infected water, contracted typhoid fever, and was brought home a corpse.

I have seen a great deal of benefit follow the administration of beechwood creosote and other preparations of this kind; however, there are a number of agents which increase the patient's nutrition and weight, and this will, in turn, diminish the ravages going on in the lungs.

PHIMOSIS IN INFANCY AND CHILDHOOD.*

BY C. G. RUSSMAN, M. D.

GENTLEMEN: I present to you to-night a subject which, in my experience, has been given very little thought or attention by the average practitioner, although it is of paramount importance in diagnosis of conditions found in the male infant and child, as will be shown by report of cases at close of paper.

* Read before the Louisville Society of Physicians and Surgeons, Feb. 16, 1905.

Phimosis is a constriction of the preputial orifice that renders retraction over the glans impossible; adhesions between the prepuce and the glans is almost constantly present. It is usually congenital, but may arise from inflammation.

The degree of phimosis varies greatly. The preputial opening may be so small that no part of the glans can be exposed, and in rare cases the orifice is completely closed.

Phimosis may produce results worthy of serious consideration. The smegma that accumulates under the prepuce behind the corona glandis and forms a hard band around the organ produces intense irritation and give rise to reflex nervous disturbances and other nervous symptoms—insomnia, night terrors, etc. The irritation beneath the prepuce induces the child to pull or rub at the penis in the attempt to obtain relief, and the sensations experienced thereby frequently results in masturbation. Balanitis is also excited and in some instances pus forms.

Disturbance in Urination.—The consequence of straining, induced by phimosis, may lead to hernia—most frequently umbilical, less so inguinal. Straining also leads to prolapsus ani, and hydrocele, from pressure on the spermatic vessels. Urethritis may be a complication. Irritability of the bladder may be induced. Enuresis, frequent micturition and dysuria. In consequence of the prevention of the free escape of urine, the distal portion of the prepuce becomes more and more ballooned out. If, in such cases, the prepuce becomes swollen by inflammatory processes, complete retention of urine may result.

Treatment.—The physician should note in every new-born infant the condition of the prepuce; if it is adherent and the orifice small, it should receive his *immediate attention, for trouble will arise sooner or later if neglected.*

I usually take a pair of small artery forceps and stretch the foreskin; if adhesions are present, dissect back or forcibly retract the prepuce over glans, sponge out smegma if present, and apply a little vasoline and draw skin forward; then instruct nurse or mother to cleanse daily, giving *explicit* instructions to draw foreskin forward to prevent paraphimosis. Another simple plan is to slit up the dorsum of the prepuce with a pair of scissors or with knife, use groved director as a guide to prevent injury to urethra, trim off the sharp corners and put suture or two on either side. This is very easily done and gives excellent results. For extremely long prepuce or in older children circumcision is to be recommended, the procedure of which is too well known to go into detail.

CASE I.—J. O., age 3½ years.—Appearance anaemic; emaciated; would lay around in listless way, or cling to mother all day; had been under treatment of family physician for months with no improvement, when father decided to make change. When called in requested parents *not* to give history of case until I had made examination; went over boy in usual way, but could find no clew to situation, so had him stripped of

clothing, when I found phimosis; stretched same with forceps as described, when there was a free flow of urine; instructed mother to cleanse daily. Had urinalysis made, found only increase in phosphates; put him on a urinary antiseptic. Improved rapidly, and in a few weeks looked like different child. Previous treatment had been to set child in bath tub of hot water to promote flow of urine, twice a day, which the mother stated had been done for weeks. Cod liver oil emulsion was also given until child had revolted.

CASE II.—H. K., age about 2 years.—Pale, emaciated; looked more like dead than alive as it lay on pillow; could not raise its head or turn; had been treated by several physicians and then taken to one of the colleges for treatment, without results. When called, found bad case of phimosis, which I corrected, and put child on stimulating tonic. In eight weeks child was practically well, running around with other children, and to-day is large and healthy.

CASE III.—K., boy of 7 years.—Very nervous; would twist and turn when sitting on a chair to such an extent that he had to be taken from school; could not sleep at night or if sleeping would awake with a start and cry out; was continually rubbing parts, due to phimosis; circumcision, with complete recovery.

CASE IV.—Baby D., age 18 months.—Healthy appearance; would cry almost continually, night and day; family physician said nothing was troubling child. Found phimosis; both testis retracted to abdominal ring. After being corrected, no further trouble.

CASE V.—Baby K., about 2 years.—Pain upon urination; would cry out; found phimosis, with pus; sebaceous matter having decomposed; alright again in a few days after being corrected.

CASE VI.—Baby S., 1 year.—Taken to office of family physician. Child could not urinate; given two prescriptions without making an examination; two days later brought to me; found phimosis, which I opened. No further trouble.

VII.—Baby S., 21 months.
VIII.— " H., 14 "
IX.— " B., 8 "
X.— " M., 8 weeks.
} All cases of like nature.

Child irritable, pevish, etc.; due to phimosis. After correction, all improved.

In conclusion will say that this may appear as a very simple matter, but unless you pay close attention to the part indicated, you will soon give way to another, as many cases where a child is fretful, restless, crying and sleepless, is diagnosed as colic or attributed to teething, when, in reality, it is phimosis, retarding the escape of urine.

DISCUSSION.

DR. HAYS: I enjoyed the Doctor's paper, and endorse his procedure in curing this condition. I agree with him that this condition, as a

cause of disease, has been very much neglected. I knew of a case not long ago where the child was fretful and nervous and wanted to remain in its mother's arms all the time. The condition was corrected by a simple dorsal slit, the mucous membrane being cut clear to the corona and one catgut suture put on either side. The child has had no more nervousness.

DR. LEDERMAN: In this connection, I would like to ask the members as they discuss the paper to give us their opinion of the ritual circumcision, whether it is a good thing or not. I know there are some members of the medical profession who believe it advisable, not as a religious custom, but as a sanitary measure.

DR. VAN ZANDT: In regard to what Dr. Lederman says, I think this is justifiable, unless the child is born perfect. If the foreskin is perfect, or, in other words, can be retracted easily, leave it alone. Recently I saw a case of phymosis similar to the one Dr. Hays spoke of and similar to those the essayist mentioned. This child was eight weeks old, and the foreskin was an inch and a half from the end of the glans. The opening in the foreskin was so small that the head of a pin could not be gotten into it. The child had all the nervous symptoms connected with the trouble. No sutures used; I put on a little boric acid, and the child made a magnificent recovery. In twenty-four hours after the operation the crying ceased, and the child now has no trouble at all.

DR. BRONNER: I think the Doctor's paper is a timely one. Although there are some leading genito-urinary men in the country who say that we ascribe too many symptoms to phimosis, I do not believe they have been exaggerated. I have seen cases with choreic symptoms which did not respond to arsenic or any of the recognized treatments for this condition, but responded to circumcision. I have seen these symptoms in older children. I had a patient, a boy of eight years, who was excessively nervous; his general condition was fairly good; he did not have a very tight foreskin, but responded immediately to circumcision.

As to the question Dr. Lederman asked, of course I believe in it. But, looking at it from a scientific standpoint, I think it is the proper thing, because I have seen so many cases where I think circumcision would have avoided trouble.

Among the Jewish people the percentage of syphilis and chancroids is lower than among any other people, while the percentage of gonorrhea is just as high. The reason is that there is less area for inoculation. It only takes a slight abrasion for the initial lesion of syphilis or a chancroidal lesion, and a long prepuce is a much better ground for this, and for this reason alone I believe that circumcision should be done.

I have seen men in the best walks of life who are hygienic in other portions of the body, and yet it is remarkable in what conditions you will find the prepuce, and I think for this reason circumcision ought to be recommended.

As for the claim of some that it causes a lack of sensitiveness, I do not believe that that is true.

DR. ROBINS: I enjoyed the essayist's paper. It clearly shows the very common conditions that follow from phimotic prepuce in the very young.

In reference to circumcision, it has been my habit, when the patient is over one year of age, to make a complete circumcision practically in the same way as in the adult, using sutures. I have often envied the results to be seen after circumcision by the ritual method, because of the neatness and simple methods used. With respect to that method of circumcision, it seems to me that it should recommend itself very highly to us all as a most desirable procedure.

I cannot understand how any man who is cleanly with any portion of his body should neglect the prepuce. I believe that local disease would be lessened, where there is anything like a long prepuce, if it was removed.

DR. W. OTHO HUMPHREY: I believe that stctistics show that the greater majority of all male infants are born with a phimosis. If this cannot be relieved by forcep dilation at the time of birth, a dorsal slit can be done in the next twenty-four hours without any harmful effects to the infant, and a few months later you have the appearance of a complete circumcision. In dressing a dorsal slit, or circumcision, in an infant, for that matter, a bandage is hard to apply and certainly useless. I simply instruct the mother to bathe the organ after each urination, and put on his didy.

Phimosis, when moderate in degree and not giving rise to obstruction or inflammation, needs no interference.

DR. HIBBITT: This is quite an interesting topic. According to the view that Dr. Russman takes, every male child that has nervous symptoms must have phimosis. He does not say anything about the female children being troubled with nervousness. I do not believe that every male child should be circumcised. I look upon the question in the light that the dorsal incision in a child from one day up to six months of age is the proper thing. The dorsal incision can be done very simply, using no suture at all. My plan is to make a dorsal incision and cover the raw parts with carbolized vaseline. The carbolized vaseline does away with the bandage and prevents the urine getting on the raw parts. Up to six months of age the dorsal incision seems to me to be the proper thing.

DR. SPEARS: The essayist is to be congratulated upon bringing before us a subject of such importance, for it is undoubtedly many times out of proportion to its apparent importance. The symptoms that may be produced by this condition are anything from slight nervousness to convulsions which may end in the death of the child. Especially does

it cause general debility in many children when it is not corrected in early life.

As to the treatment of the condition, I believe, if the prepuce is reflected and the mother is instructed to retract it each day just as religiously as she gives the child a bath and at the time the bath is given, by the time the child is ten or twelve years of age we will find that the glans has developed much faster than the prepuce itself, and the child will not need circumcision. I do not think that nature intended that the glans should be entirely exposed. When the mucous membrane is exposed, as in complete circumcision, it becomes a muco-cutaneous surface; I do not think this is intended.

DR. YEAGER: I heartily endorse what the essayist has said. We find these children suffering from some unknown disease, and if we examine the penis we find the seat of the trouble, and I believe it would be a good thing to circumcise every male infant. Of course, it is easy enough to keep these parts clean, but many mothers and nurses, after the child gets old enough to run around, will neglect it, and for that reason I think that circumcision in the infant is the wisest procedure.

As for removing the prepuce or letting it remain, of course, in the wild state before we wore any clothes, the prepuce was an important fretor in protecting the organ. I think that in the civilized state it should be removed, because it causes a good deal of trouble.

As for the dorsal incision, I remember when I first started to practice medicine I operated on a child and did a dorsal incision. It was very successful as far as I could see, but a few days after the operation was performed by a professor of one of the colleges was called to the house to see a member of the family, and while there they showed this child to the professor, and he made the remark that he wanted to know what butcher did that operation, and since then I have done but one dorsal operation on an infant.

DR. KINCHELOE: I would like to thank the Doctor for his paper. I would like to say that I have had several infants under my care, and I have never seen one in which I could not retract the prepuce and clean out the smegma, and I do not believe that the dorsal incision or complete circumcision is necessary in all cases, and in a great many cases I do not believe that either one should be done.

DR. BLITZ: I know that a great many authorities claim that the prepuce should not be removed, because nature intended it for some purpose, but my plan has always been to advise operation within the first week, and the time I advise the operation is about the seventh day. I simply make an incision and retract the foreskin; I do not use any suture; I use vaseline on the cut surface, and they get well. Furthermore, I do not care who does the operation and how badly it is done, they will get well and show up as nicely as the operation well done; at least that has been my experience with the clinics. I know I have

heard Dr. Bloom say that he had known cases where the operation looked mighty ragged at the beginning, but they always turned out well. I believe that the operation should be done in the first week. If we would do this, we would prevent a great deal of trouble in after life. Venereal warts are very common on the foreskin; they are not found when the foreskin has been removed.

As far as the dorsal incision is concerned, it is just as much trouble to do a dorsal incision as the complete circumcision. The circumcision should be done at the beginning.

A few weeks ago I delivered the wife of a patient of mine, and he told me that he wanted the baby circumcised. He said that he had had a great deal of trouble because he had not been circumcised, and he was not going to let that baby have the same trouble. Circumcision can do no harm, but it will do good as a preventive means.

DR. DUNNING S. WILSON: I did not have the pleasure of hearing the paper of Dr. Russman, but have listened to all the views expressed by the gentlemen in the discussion, and it seems to me that Moses was a pretty good health officer after all, and that the hygienic laws that he laid down have never been improved upon.

As Dr. Blitz has said, it only takes a moment to do this operation, and we relieve the glans of the smegma that has accumulated, preventing for all time any further annoyance. The retraction of the prepuce for the purpose of curing phimosis is easy enough to do the first time, but in sturdy infants it is sometimes very difficult to draw back the foreskin each day in order to oil the glans and prevent adhesion.

I mention the dorsal incision only to condemn it. If we do an operation, let us do a nice one. The dorsal incision does not give the cosmetic effect that we get when a true circumcision is done.

DR. ASMAN: I appreciate the importance of this subject, and congratulate Dr. Russman on the able manner in which he has handled it. It is a fact that we often find among adults conditions which should not exist, and, had they been circumcised early in life, perhaps much suffering would have been spared them.

Quite often indeed in my work in rectal surgery I find it necessary to recommend to the patient that he be circumcised. I mention this as an observation among adults, that oftentimes they have a tight prepuce, under which is an accumulation of smegma giving rise to many symptoms, oftentimes serious, and while I do not believe that it is absolutely necessary, or even advisable, in all cases, still there certainly are a great many in which it should be performed.

DR. RICHARDSON: Dr. Russman has presented a timely subject. It seems to me that the question whether the child should be circumcised or not should depend upon the condition of the foreskin. In those cases where it is long and not tight, but presents a very loose condition, I think it should be removed. I do not advocate a dorsal incision at

all; a great many cases, I think, can be relieved by pulling the prepuce back behind the glans. It is not necessary to do this every day; if this is done once a week, or every ten days, I think it suffices.

It has been my good fortune to see a great many of these cases—some three or four hundred—in the Ruptured Hospital in New York. In these cases they cure hernia up to the age of four by means of a truss. When the foreskin is tight there are never any satisfactory results from the truss treatment; the first thing is to force the foreskin back and apply the truss. This is forced back once a week or every ten days, and the hernias are easily cured.

DR. BLITZ: I do not believe there is any man present who has not had trouble in these cases. I do not believe any man should be employed to do a circumcision that does not use cleanly measures. I do not believe that any man who is not a physician or a surgeon should do this operation. It is not a question of whether it is done for five or fifty dollars or whether it is done for nothing. I do not believe that any man ought to be employed that is not able to take care of the infection, if it occurs. I have done a good many, and have had very little trouble. They all get well. As far as the bandage is concerned, there is no special good in that; it does not control the hemorrhage. Take it all in all, he gets no better results than the physician gets. His methods may be clean, but this is not true of the majority of them.

DR. RICHARDSON: I would like to ask you how he does the circumcision and cuts through the mucous membrane?

DR. ROBINS: Dr. Sallinger is a very able man in operations of this sort. It is well to remember, however, that cases have been recorded where syphilis has been acquired by the child operated on by the ritual method where no regard has been paid to asepsis.

DR. RUSSNAN (*closing*): Some of the records show that, in the ritual circumcision as formerly practiced, syphilis, tuberculosis, and other diseases have been communicated by the operator sucking the blood from the prepuce.

In regard to what Dr. Van Zandt says, that he would circumcise in any case not perfect, I believe I have seen as many cases and delivered as many babies as any man present, and I have never to this day seen a perfect infant in this respect; that is, where the prepuce could be retracted without dilating or forcibly drawing it back over the glans.

As to the dorsal incision, I think it is a very good procedure in the early days of infancy. No harm is done by the incision, and if we cut off the two flaps, it leaves a very good result, because it will retract the skin and look just as well as any circumcision in early infancy. No harm is done by the operation, although the circumcision is the better method of procedure.

I thank the gentlemen for their discussion and the interest shown in the paper.

DISEASES OF THE BRONCHI.*

BY M. S. ALLEN, M. D.

ACUTE BRONCHITIS.—Acute catarrhal inflammation of the bronchial mucosa is usually bilateral, and affects mainly the first and second divisions of the tubes. It is often epidemic and probably due to a microbic infection. Affecting the bronchioles (capillary bronchitis), it is simply a part broncho-pneumonia. (a) *Causes.*—Usually a downward extension of an acute naso-pharyngeal catarrh caused by cold, and occurs as a symptom influenza, measles, typhoid fever, malaria, pertussis, and bronchial asthma. Very young, elderly, and debilitated persons are particularly liable; so, also, are certain individuals. (b) *Symptoms.*—Usually there is coryza, with chilliness, slight hoarseness, soreness of the throat, a feeling of weakness and oppression, and some general aching of the back and limbs. There is slight fever, tem. 100 to 101, but in severe cases it may rise to 103, with a corresponding frequency of the pulse. The bronchitic symptoms proper are substernal soreness, rawness, tightness or oppression; cough, at first dry, rough and irritating, often occurring in severe paroxysm, and by its violence causing muscular pain and soreness along the costal margins. In from one to three or four days the cough loosens and expectoration appear; at first scanty and mucous, later abundant and muco-purulent, with great relief to the patient. The breathing, except in children or in severe cases with fever in adults, is not increased in rapidity, and there is rarely dyspnea unless the smaller tubes are involved. Palpation and percussion are, as a rule, negative. Auscultation in the initial stage reveals sibilant and sonorous rales, which, in the stage of abundant secretion, are replaced by fine and coarse moist or bulbing rales. The breath sounds may be somewhat harsh.

(c) *Course and Duration.*—In otherwise healthy adults the fever disappears within a week, and at the end of two weeks convalescence is established, although a moderate cough may persist for a week or two longer with a moderate amount of expectoration. But in the very old, the very young, or in persons debilitated from any cause, the inflammation may extend to the bronchioles and air cells constituting a broncho-pneumonia.

(d) *Differential Diagnosis.*—At the onset, in sudden and severe cases, bronchitis may simulate lobar pneumonia, but the absence of the physical signs of consolidation, as well as the milder grade of disturbance, will soon decide against the graver disease.

The development of broncho-pneumonia during the course of an acute bronchitis is usually indicated by the finding of numerous fine and subcrepitant rales, with patches of slight dullness and weak or distant bronchial breathing, especially at the base of lungs. It is well to bear

* Read before the Muldraugh Medical Society, Dec., 1904.

in mind that an acute bronchitis may be the initial symptom of measles or whooping-cough. The physical sign of acute miliary tuberculosis of the lungs may, at the beginning, closely resemble those of an acute bronchitis.

Chronic Bronchitis.—This is usually associated with emphysema and not uncommonly there are dilatations of the brochial tubes (bronchiectasis). *Causes.*—Occasionally due to repeated attacks of acute bronchitis, but occurs much more commonly as a result of chronic valvular disease, chronic alcoholism, rheumatism, gout, chronic nephritis, syphilis, chronic pulmonary disease, or aortic aneurism. It affects mainly elderly persons, and the symptoms are aggravated during the winter months.

(e) *Varieties.*—Certain clinical varieties are recognized. (1) The most common form occurs in elderly, (often gouty) men, and is associated with emphysema, heart disease, arteriosclerosis, and highly acid urine containing a trace of albumen. The cough may occur only in the morning or at night, with free expectoration. The general health may be unimpaired for years. (2) Dry catarrh occurs in elderly persons, is associated with emphysema and characterized by violent paroxysms of cough, with no or but little and tenacious, expectoration. (3) Bronchorrhoea, a profuse watery or thin and purulent, rarely thick, expectoration, may attend chronic bronchitis in the old or the young, and in the former may be ultimately associated with bronchiectasis and putrid bronchitis. A form of chronic bronchitis occurring, particularly in women, has been described by Osler. It comes on between twenty and thirty years of age, and may persist without general impairment of health.

Symptoms.—Cough, frequently paroxysmal, worse in the morning and at night, is the most constant symptom, often disappearing in the summer and returning in the winter. The amount of expectoration varies; rarely there is none, more commonly it is more or less abundant and mucopurulent or decidedly purulent, occasionally thin and serous. Fever is rarely present, and substernal pain is uncommon, although there may be soreness along the costal margins if the cough is violent and paroxysmal. There may be some dyspnea on exertion.

The physical examination usually shows an enlarged chest with deficient expansion, due to associated emphysema. The percussion note is normal, hyper-resonant, or slightly tympanitic. Auscultation reveals prolonged, usually low-pitched and wheezy, expiration over both lungs, with bilateral fine and coarse, dry and moist, rales. Exceptionally there may be slight dullness or impaired resonance with fine crepitations at the bases, due to a certain amount of oedema and passive congestion. The physical signs in some cases may be negative.

Diagnosis.—This is usually easy. The heart, arteries and urine should be examined in order to ascertain whether the bronchitis is sec-

ondary to cardio-vascular or renal disease. There are certain cases which suggest pulmonary tuberculosis, but the discrimination can generally be made by the absence of the fever, circumscribed consolidation, and emaciation, which attend phthisis, as well as a failure to find tubercle bacilli in the sputum.

(5) *Treatment.*—If the patient be weak or old, he should be confined to his room or bed; the atmosphere of the room should be kept warm and moist. If the patient be seen at the outset, it is useful to promote free diaphoresis, and this may be accomplished by means of a hot foot bath, with hot drinks, and a full dose of Dover's powder. Counter-irritation to the chest in the form of stupes made of hot water and turpentine is very beneficial. The food should be simple and readily digestible, and the bowels should be kept regularly open by the aid of mild aperients. In the early stage, when there is no secretion, sedative expectorants, ipecac, potassium citrate, tartar emetic, and apormophia are indicated. It is usually necessary to add a sedative, like opium or one of its derivatives (codein ⅛ to ⅙ gr., or heroin 1-16 to 1-10 gr.) to allay the distressing cough. When the secretion becomes more abundant, stimulant expectorants are indicated. One of the most reliable members of this class is ammonium chloride; it may be prescribed in some simple vehicle, like brown mixture, or with squills.

Among other stimulant expectorants may be mentioned terpin hydrate, terebene, oil of eucalyptus, oil of santal, tar, etc.

STITHTON, KY.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, FEBRUARY 7, 1905.

DR. ABELL: The title of the paper is "Acute Abdominal Disturbances." I have had some little experience with some cases in the last few days, and I have two specimens that I wish to present.

The first one is one with which we are familiar. I present it, not so much because of the beauty of the specimen, but for discussion of the treatment. The case was one of acute gangrenous appendicitis; the appendix ruptured twenty-four hours after the first symptoms of the attack, the abdomen containing as much as two pints of septic fluid. As soon as the peritoneum was opened this came out in large quantities. There was a gangrenous spot on the head of the colon larger than a dollar. The woman's condition was grave—temperature, 102.2; pulse, 130.

After removing the appendix and closing in the gangrenous spot on the head of the bowel, the cavity in general was washed out with a number of gallons of saline solution. A puncture was made in the lumbar region on each side, and a wick-drain was introduced and a rubber drainage tube was placed in the abdominal wound. The woman was placed in bed in a semi-upright position so as to favor drainage; I placed a tube in the bowel and allowed saline solution to flow in constantly, hoping to wash out through the abdominal vessels and drains any toxines that might be left. It is twenty-four hours since the operation, and there has been no nausea and no pain. The pulse is 110 and of better volume than when the operation began.

The other case is one of considerable interest to me. The case was sent to me by Dr. Katzmann. The patient two weeks before had suffered a severe cystitis. At the time she was suffering from the bladder trouble she complained of pain and tenderness in the left kidney region—temperature, 101.2. The cystitis, under proper treatment, apparently subsided, as also the tenderness in the left kidney region; the temperature got down to 99, and the woman felt better. In ten days she had a chill and pain in the right side in the region of the kidney; this pain has been continuous; there has been pus and blood in the urine, repeated chills and a temperature from 102 to nearly 105; pulse 130, showing marked evidences of sepsis and considerable prostration. By palpation of the right kidney region, we made out a tender kidney—the muscles quite rigid, and, what was rather confusing, in front of the kidney and in the abdomen was quite a mass—quite a tumor, the character of which we were not able to make out.

On account of the repeated chills, we suggested that she submit to an exploratory operation of the kidney. That was done this morning, and we found the kidney to consist of multiple abscesses and breaking down. In this specimen quite a number of the abscesses are shown. We find areas of necrosis of the kidney substance even down as far as the pelvis.

The removal of the kidney presented no difficulty in itself, except that we feared that we might separate this mass of friable tissue from the pedicle proper and leave that open. After removing the kidney, we made a small incision into the peritoneum to find out what the trouble in the abdomen was, and found it a displaced liver. The border of the liver reached to the crest of the ilium. No increase in size, no tenderness, no evidences of trouble whatever, the liver presenting a normal condition. It is too early to tell what the result of the operation will be; there is no elevation of temperature, pulse 116, and her condition better than during the last seventy hours.

DR. CHEATHAM: What is the cause of the trouble in the kidney?

DR. ABELL: The infection extended from the bladder through the ureter to the kidney.

DR. GRIFFITHS: The cases are the most remarkable that we have had reported for some time, and I hope Dr. Abell will give us a continued report of them.

DR. WILLMOTH: These are both very interesting specimens, and, like Dr. Griffiths, I hope Dr. Abell will continue the report of the cases so that we will be able to follow them up.

The cases of appendicitis is one of the fulminant cases where gangrene has taken place rapidly. In regard to the treatment, I read a very interesting article in the report of the Presbyterian Hospital of New York, where ——— has treated a number of cases with irrigation, and he claims that much depends upon the way in which the irrigation is done, first high up in the abdomen and then lower down and then going over it in the same way. In irrigation he uses a number of gallons of saline solution and makes the lumbar puncture that Dr. Abell has spoken of, and he gets brilliant results.

The kidney case is one of considerable interest where the infection has traveled up from the bladder and infected the kidney, running a pretty rapid course.

DR. MARSHALL: The first case is extremely interesting to me, and I would like to have as much light as possible thrown on the subject as to the possibility of such a rapid formation of pus at the end of twenty-four hours, so as to have a ruptured appendix filling the whole abdomen with pus. It strikes me that there must be an error somewhere in the record of these cases; I cannot conceive of such rapid formation of pus and the filling of the abdominal cavity in that way. I believe that there is a mistake in the records.

As to the treatment used in this case, I think several times in the last ten years I have seen it recorded by different men both in this country and abroad, especially by some man whose name I cannot recall, an Englishman, who was in favor of the irrigating plan where pus was distributed through the cavity. He reported successes. Other men have tried it and have taken the position that irrigation increases the infection. But, as I recall, they did not use the multiple openings; in fact, some of them did not drain at all. Flushing of the cavity has gone out of fashion. Some have advocated dry mopping of the cavity. Some have gone against that, saying that the mop had injured the parts and made them more susceptible to infection.

Another point about trouble with the appendix, not in this case, because I do not have any other opinion except what Dr. Abell has said, but I think many times appendices have been removed where they were not diseased and where they were not in a condition where operation was indicated, but by the manipulation and the handling of the appendix at the time of the operation there would be such changes, and the character of the part removed would be altered that it would be impossible, in a microscopical way, to say that the part was not diseased.

DR. W. H. WATHEN: I agree with Dr. Marshall that there is probably some mistake in the beginning of the history of this case; that it is hardly possible to have the quantity of pus described by Dr. Abell form in this length of time; hence the case was undoubtedly of longer standing than it appeared to be to the surgeon. We would probably have positive symptoms of the beginning of a disease so rapid in its development as this. It might be possible for the symptoms in this instance to be masked.

The question that I wish to discuss, however, is the treatment of the case after the appendix was removed. I am on record as opposed to irrigation. I have not irrigated for five years, and since I have discontinued it my results have been much better. From my own experience and the experience of most of the best surgeons, I feel that I shall never irrigate again. In consulting Dr. Murphy, who has done much appendical surgery, I found in his previous work where he sponged and where he irrigated his results were not so good as after he discontinued sponging and irrigation. In sixteen cases of suppurative peritonitis he has had but one death. When a patient is suffering from suppurative peritonitis there is abdominal tension and constant absorption of toxines by the peritoneum; when you open the abdomen and relieve the pressure by drainage you increase the resistance of the surrounding tissues of the peritoneum. Then you do not want to irritate the peritoneum any more than you can help. The peritoneum is a very delicate structure when healthy, and a sponge will often irritate it even if we sponge very carefully, but when the peritoneum is inflamed we destroy its resisting power to a great degree. I do not believe in sponging in these cases. Again, if the pus is all over the cavity and you wash out 49-50 of it, the remaining 1-50 contains the germs, which will multiply in millions in a few hours; hence it will do no good. Do not irrigate these cases, do not sponge them.

Drainage is all right through the anterior abdominal wall, though I certainly would not have drained this patient through the lumbar region. You are committing a traumatism and do no good by making the openings posteriorly. I believe Dr. Abell's patient would have done better if he had not sponged or irrigated and had not drained posteriorly. I will say, however, that there are some good surgeons who still advise irrigation, sponging, and posterior drainage, but I believe that sponging and irrigation will be discontinued.

DR. ABELL (*closing*): I have nothing special to say. I merely reported the case to hear the discussion as regards the treatment, particularly in the case of appendicitis. If Dr. Marshall will notice that the artery has become thrombotic in the early part of the disease, he will understand how the process has been so very rapid; evidently the infection caused a thrombosis of this artery. You can understand how perforation occurred so rapidly.

I agree with Dr. Wathen in some respects, but believe that irrigation

should be performed in cases like this. I believe the patient would have been dead if she had not been irrigated. The toxemia would have rapidly increased and destroyed her life if irrigation had not been practiced. I think a clean lumbar puncture can do no harm. She is in a semi-erect position and a tube constantly in the rectum, and if we can flush out through the two drains in the twenty-four hours we have accomplished all that we want, and that is all we expected.

DR. MORRIS: I would like to speak of a case; I speak of it largely with reference to the uncertainty which I have of the case, and to see if we can get some light on it. It is the case of a young man that I was called to see two or three weeks ago; he was a strong, vigorous, healthy man of nineteen or twenty, and I found him when I first saw him suffering with intense headache. I prescribed something for the headache and told him I would call to see him the next day. When I called the next day I found him suffering with the same intense headache; he had not received any benefit from what I had given him—temperature 103—and I prescribed again for him, and left him and saw him again the same evening, and found him with that intense headache, temperature still 103, and in a very nervous state, very much like a man with a beginning delirium tremens. It was with difficulty that they were able to keep him in bed, and it required a hypodermic of morphine to control him; he was quiet in a short time and I left him. They called me again in twelve hours, saying he was extremely nervous and suffering intense headache. When I called he was delirious, and it was with great difficulty that they restrained him at all. Could only do so under the influence of opium. I secured a nurse, and she took charge of him, and he complained of the intense headache until he became delirious, and the nurse had to keep him under the influence of morphine, and he sank into a state of coma sixty hours after I had seen him, and died. Now, the question was this, what was the cause of death?

DR. MARSHALL: What was the condition of the urine?

DR. MORRIS: It was not examined. He died so suddenly that I did not have an opportunity, or did not take advantage of the opportunity, but the passage of urine was normal in quantity and appearance.

DR. MARSHALL: What was the condition of the pupils?

DR. MORRIS: They were equal in size and responded to light. I found after death that he had been complaining of severe headache for two weeks, and had gone to some physician that I did not know, and had seen him two or three times relative to this headache. There was a little discharge from the external auditory canal, which was mopped out two or three times, and I take it that there must have been a little extravasation of pus in the brain from the middle ear that caused this trouble.

DR. SAMUEL: About three or four days ago I was called by a friend to see a lady who was visiting her for a week, to relieve an earache. She

had been suffering with it for twelve hours, and after examining her ear it did not seem that there was any serious trouble. She gave history of having grippe, sore throat, aching, and some fever. I gave her a capsule containing acetanelid and salicylate of soda, and after taking it for nine hours she was relieved of the earache. The next morning I was called about seven or half-past, and was told that she was suffering severe headache in the occipital region. I suggested that she take laudanum for it, ten or fifteen drops fifteen minutes apart, until I got out to see her. I saw her shortly afterwards, and her pulse was 90, pupils responded equally to light; she did not have any fever, her bowels had moved through the night, and she had passed a small quantity of urine. I gave her a quarter of a grain of morphine, and remained with her for an hour. I was called at 4 o'clock in the afternoon, and repeated the morphine. I was told that, a short time after I left, she was in a state of coma, and died about 5 o'clock in the afternoon.

DR. IRWIN: The reports of the two cases are very interesting in view of the fact that we have sporadic disorders occuring from time to time, and especially when contagious influenza is prevalent. Dr. Morris' case is interesting from the time he saw it until its death. The previous history of headache may have had some bearing upon the cause of death. Dr. Samuel's case is more interesting and more indefinite. If we had epidemic cerebro-spinal meningitis occurring at the present time, we could account for such cases, but it is not prevailing, and we must look for some other cause for the death. In this connection I wish to refer to the case of a girl of five that came under my observation in the last ten days. For eight days previous to the time I saw her she has had an attack of grippe, and at the end of eight days she became nauseated and suffered from projectile vomiting; she was dull and stupid, with loss of facial expression, great pallor, and sunken eyes. Her attending physician advised consultation, and I was called to see her. I made a diagnosis at once of meningitis, not cerebro-spinal meningitis. She had been complaining for a week; her condition was not considered serious; she had not had much fever, and the family was not alarmed until the morning I was called in. I have seen nine such cases in the last ten years, and I have never seen a case following the grippe to recover. This may throw some light on the cases reported.

DR. WILLMOTH: I have nothing more to say than to report a case. It seems to be just in line with the case Dr. Morris reported. Two weeks and a half ago a doctor from the country called me up by telephone and said that he wanted me to come out on the train and open up the mastoid region in a girl of fifteen. The girl had had a slight headache and trouble with her ear for two days. He had called to see her, and thought she had some mastoid trouble and wanted her operated on. That was 6 o'clock in the afternoon. About 8 o'clock in the evening he was sent for, and the girl died that night. The next morning he telephoned me

not to come. This girl was sick for two or three days, and had a discharge from the ear two days. The girl died about fourteen hours after he saw her. Her temperature was 100 in the morning when he saw her and her pulse 96. At 8 o'clock in the evening she was unconscious, and by half-past two in the morning she was dead.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, STATED MEETING, FEBRUARY 21, 1905.

DR. MORRIS: I have a rather unusual case which I desire to report to-night. Some time during the year 1902, a very vigorous and robust man, weighing in the neighborhood of 250 or 275 pounds, while eating pigs' feet for his supper, thought he swallowed a bone. He immediately left the table coughing violently, and as time went on this cough continued to grow worse and worse, and in a few months the man had become very much emaciated. He expectorated a great deal and lost flesh to the amount of more than 100 pounds. All this time a number of physicians had been attending him, and they all differed as to the cause of the trouble; some thought it active bronchitis and others tubercular trouble; in fact, some of them went so far as to treat him for tuberculosis. At the end of four or five months the gentleman's condition had become so extreme that his physicians gave him up to die, and he also had abandoned hope. About this time, in one of his fits of coughing, he coughed up a bone, which I have here and desire to exhibit to the Society. After the expectoration of this bone, he naturally expected to improve, but he did not, and, believing he was going to die, he decided to go to Atlantic City, where his friends were. He staid there for a week or two, and started home again. He stopped at Philadelphia, and while there he was attacked with a fit of coughing, and, becoming exhausted, sat down on a curbstone. He said that something seemed to break in his chest, and he began to expectorate great quantities of pus, until, in his opinion, he had expectorated twenty or thirty ounces. This was about six months after the beginning of the trouble. From that time he began to improve rapidly, and in two or three weeks was restored to his normal state of health and weight.

I report this case merely to show how we may be mistaken in diagnosis. There seemed to be no doubt in the minds of the physicians who attended him that the man was dying of tuberculosis, and they so told him. If the gentleman had died, his death would have been attributed to tuberculosis, when in reality this bone had lodged in his wind-pipe.

DR. WATHEN: This is a report in which we are all interested, I believe. It is unusual for such a large bone as this to become lodged in the bronchial tube and remain so long without its presence being suspected by the physicians who so carefully examined this man. Smaller pieces of matter generally cause so much trouble that we are convinced

there must be something foreign in the tubes. However, it seems that, in view of the fact that he told the physicians of having swallowed a bone, and then having this continual cough and trouble in his lung, they would have suspected the presence of some foreign substance in the tube. That some of these physicians should have thought that he had tuberculosis is still more remarkable, and impresses upon us the fact that we should be more careful in looking into the details of our work, and not take too much for granted. It is hardly possible that tubercular bacilli could have been found in the expectoration in view of the previous and subsequent history of the case, but we are all liable at times to make mistakes.

DR. COOMES: I recall a case somewhat similar to that reported by Dr. Morris. Some years ago Dr. Larabee asked me to go see a child which he thought had either membranous croup or diphtheria. When I arrived the father of the child, who was a tinner, told me that the child had swalled a stove rivet. However, the child died of what we thought was membranous croup. A post-mortem examination was made, and this rivet was found encysted at the bifurcation of the trachea. A curious thing about the case was that, while the child was subject to fits of coughing, it did not become at all emaciated, and really seemed to be very slightly inconvenienced.

This brings to mind a case I read of in some medical journal, of a child who swallowed a peanut, which lodged in one of the bronchial tubes and staid there for six or seven months. Finally, however, in a fit of coughing it expectorated the peanut.

One bitterly cold night three negroes came to my office, and one of them, a woman, told me that she had swallowed a dime. She was very much exhausted, and I could hear the dime playing up and down in the bronchial tube. With the assistance of the woman's husband, I stood her on her head and hammered on the top of her chest, and after a few licks the dime dropped out. She suffered no further inconvenience.

DR. FLEXNER: I wish to report a case which I was called to see some time ago. The patient, a man, had when quite young swallowed a good-sized nail. He had a cough, but grew up as most boys do. Dr. Vance opened his chest and emptied a great abscess of the lung, and a short time after that he went to Denver, Colo., and some microscopist out there examined his expectoration and found tubercular bacilli. He expectorated a portion of this nail he had swallowed while in Denver. He came back here and practiced medicine for quite awhile. The abscess again suppurated, and in a short time he had an enormous accumulation of pus in the lung. I examined some of the pus and found tubercular bacilli in it.

DR. MARSHALL: A great many cases of influenza which I have seen lately have shown considerable trouble with the stomach and bowels, and I would like to ask the members of the Society if they have

been having a like experience. In some cases I have seen there has been very obstinate nausea and considerable disturbance of the bowels, lasting anywhere from twenty-four to forty-eight hours and sometimes longer.

DR. FLEXNER: I have seen a number of cases of the sort mentioned by Dr. Marshall. I have a patient who has been one of the most obstinately constipated persons I have ever seen; being proof against two-ounce doses of castor oil. Two nights ago he developed a sudden rise in temperature and had one of the most severe attacks of diarrhea that has ever come under my observation.

DR. LEAVELL: In reply to Dr. Marshall's question, I wish to say that in almost every case of croup or influenza I have seen in the last two months there has been disturbances of the stomach and dowels, with loss of appetite for a period of one or two weeks.

DR. WATHEN: Four weeks ago I reported to this Society a clinical case of gastrostomy, and I intended this evening to present another patient who was operated on two weeks ago, but as an appendectomy was also done on this man at the same time, I deemed it unwise to bring him out to-night.

This patient had been suffering for about seven or eight months, but had never vomited. The pain was mostly in the region of the stomach, upon the left, radiating across to the right and down into the appendicular region. He suffered a great deal and lost flesh very rapidly. When the abdomen was opened there were extensive adhesions upon the right side down into the pelvis. The appendix, which was about seven inches long and extended deeply into the pelvis, adhered in its entirety. This was separated and removed. The adhesions were under the stomach and around the upper part of the jejunum. There must have been ulceration about the pyloric end of the stomach, and I am inclined to think that there were small perforations either at this point or in the duodenum; otherwise, how account for these adhesions. Gastroenterostomy was performed by taking the stomach, the transverse colon and the omentum out of the abdomen, separating the adhesions, opening the mesentery and attaching the jejunum to the stomach three inches below its origin, the incision being two and one-half or three inches long. A piece of mucous membrane of the stomach and jejunum half an inch wide was also removed. This left the jejunum in the stomach in a practically normal position. The patient has about recovered and will probably leave the hospital in a few days.

I have some schematic drawings here, the first showing the position of the stomach, the small peritoneal cavity, the posterior attachment transvers emeso-colon behind the stomach and the beginning of the jejunum; second, the same schematic drawing showing the same conditions except the jejunum, brought up and attached to the stomach with posterior drainage from the stomach; and third, the stomach itself, showing

the condition that exists in these parts to-day, with the jejunum three inches below the point of attachment of the transverse meso-colon, without any jejunic loop.

The only operation of this kind that is going to stand the test of time is that done without the intestional loop; there is very little traumatism and it leaves the parts in a practically normal position. Recently the Mayo Bros. did some of the posterior operations, but they used the loop. The latter is a prolonged operation, full of traumatism and leaves the parts in an abnormal state.

DR. COOMES: I have two cases of typical tuberculosis which I wish to report. The first case was that of a man about forty-five years of age, a saloon-keeper, whom I saw about three years ago. He was having a terrific nasal hemorrhage, and was very much frightened over it. I told him it was caused by drinking; that the blood vessels had broken down and that his nose was the safety valve. I called in some other physicians and held a consultation and succeeded in checking the hemorrhages, and he got well and quit drinking. About two years ago this man came to my office and told me that he had been spitting blood. I had him expectorate on a piece of paper, and upon examination the expectoration was found to contain tubercle bacilli. He insisted on knowing his trouble, and I told him, and he asked me how long he had to live. I inquired his weight, and he told me 151 pounds, and I informed him that he would live just as long as he weighed 151 pounds. He insisted, however, that I should treat him, and I did so. I told him not to drink anything but red wine and insisted upon his eating one rare beefsteak each day. The blood in the expectoration rapidly disappeared, and he recovered fully.

The next case is that of a woman who had her leg amputated some years ago for tuberculosis. I saw this woman five or six months ago, and she told me that she had lost thirty pounds in four months. She had a cavity in one lung. I did not have her expectoration examined, but she spit large quantities of muco pus. The left vocal chord was intensely congested, and all the membranes in the immediate neighborhood were enormously swollen, and she was very hoarse. She was brought to me by one of her relatives, who was very anxious to have something done for her throat. I told him that I could not do much for her throat directly, and that the best thing in a case like this was to spray the throat with menthol with a little carbolic acid in it. This woman was put on a rigid diet, and gained forty pounds in six months. All the throat symptoms have subsided, and the involved space is normal. She is talking naturally, and has no temperature.

In my opinion, these two cases are typical ones, and show that even here the disease may be arrested and the patient given a new lease on life.

DR. M. K. ALLEN: Dr. Coomes has reported two very interesting

cases. I believe it is recognized that the open-air treatment is the proper thing for consumption. It is claimed by sanitariums that 60 per cent. of the cases which come to them are cured, yet I am a little doubtful of this, because of the fact that the persons who conduct these sanitariums have no means of following up the patient after he is discharged and knowing whether he is permanently cured or not. My own experience teaches me that very few cases of consumption are cured, especially in this climate. If a patient can be taken to a more suitable climate and be given the benefit of the open air, I believe the chances of recovery are considerably greater than in this climate.

So far as medication is concerned, I do not believe that, up to this date, anything has been discovered which really cures consumption. This is a question which should concern, not only the profession, but the laity. Any disease which causes, as it is said this one does, the death of one person out of every seven who die, should certainly receive the earnest consideration of the public at large. I believe a great deal could be done to prevent the spread of this disease by the passage and enforcement of an anti-spitting ordinance, and by the elimination of teachers who are suffering with tuberculosis from the public schools. Several years ago the attention of the School Board was brought to the fact that a number of teachers in the public schools were afflicted with consumption, and a resolution was passed providing that every teacher should be examined and obtain a certificate showing perfect physical health.

If a cure for consumption is ever discovered, I believe it will be some sort of serum treatment, although up to this time we have no serum that will effect a permanent cure.

PROCEEDINGS OF THE ACADEMY OF MEDICINE,

STATED MEETING FEBRUARY 5, 1905.

DR. DUNCAN: I have a specimen to exhibit to the Society to-night. This is a uterus with two fibroid tumors, removed twelve days ago from a colored woman about forty years of age. The interesting part of it is that it exhibits such an unusual shape, and that, although very small, it was lying in such a position as to practically choke up the pelvis. It lay almost transversely in the pelvis, slightly inclined upwards and backwards. It was adherent above, on the sides, and posteriorly to the intestines, and on account of the thickness and breadth of the mass. It was very difficult to get at. The peritoneum was stripped down in front and behind, and a supra-cervical amputation was done.

This woman had suffered for about two years, but I suppose the tumor had existed for a longer time than that. She had not been pregnant for thirteen years.

Complicating the tumor was a condition resulting from an inflammatory disease of the pelvis. The tubes and ovaries were imbedded in an inflammatory exudate which filled Douglas' cul-de-sac, and the only way to locate them was by following the tubes from the cornea of the uterus and ascertaining that they must be down in the cul-de-sac. There was no way to recognize them by the sense of touch or sight. After getting the uterus out of the way and controlling the hemorrhage from the stump, the ovaries were removed.

DR. SIMRALL ANDERSON: I have one or two specimens to exhibit tonight; the first of which is somewhat similar to the specimen presented by Dr. Duncan. Dr. Freeman probably remembers the case, which was one of fibroid, complicated with pus tubes, which filled the entire pelvus. The intestines were adherent and all landmarks destroyed, which made removal very difficult. The pus tubes are of pretty good size. The appendix was adherent to the right tube, and also was removed. Drainage was used, and the patient did not have any trouble at all.

I have another specimen here which I removed this morning from a woman who was sent here from the country with a terribly enlarged abdomen. She measured forty-eight inches around at the umbilicus. Upon opening the abdomen we found the peritoneum very much thickened, and soon came across this cyst wall. It was opened, and a chocolate-colored fluid ran out. We got out a little of the sac and found that she had extensive papillomatous disease. The whole interior of the cyst, as well as the outside, was studded with little warts. It was found impossible to remove the cyst, so we used two cigarette drains, one placed behind the uterus and the other in the sac; there was very little hemorrhage.

DR. ABELL: Any warts on the intestines or abdominal wall?

DR. ANDERSON: The whole uterus was studded with them, and they also appeared on the abdominal wall.

DR. ABELL: Has she ever been pregnant?

DR. ANDERSON: I believe she has had one child.

DR. FRAZIER: How much fluid came out of the sac?

DR. ANDERSON: About four or five gallons.

DR. BULLITT: Was it all in the sac and none in the cavity?

DR. ANDERSON: All in the sac.

DR. JAS. VANCE: Dr. Duncan's specimen is very interesting on account of the diffculty experienced in removing it. I believe these small inflamed pelvis-bound tumors are about the most difficult problems a surgeon has to deal with in the pelvis, especially where they are closely adherent to the intestines, as reported by Dr. Duncan.

The second case reported by Dr. Anderson was unquestionably a malignant one, and teaches us to have more respect for a cyst. It is

generally supposed that a cyst is a very harmless sort of a tumor, but Shauta teaches that 20 per cent. of them are malignant. When the cyst can be removed in its entirety, the prognosis in these cases is generally very good, but when seen as late as the case reported by Dr. Anderson there is very little chance for recovery. Cystic degeneration of the ovaries is not, in this country, regarded as malignant, for the reason that, in a majority of instances, the entire growth is removed.

DR. DUNCAN: I overlooked one point in connection with the case which might be of interest. Recognizing the fact that the pelvis was pretty well choked up with this mass, and that there would be some difficulty in avoiding the ureters, I attempted to catheterize them before administering the anæsthetic. I used the Bransford Lewis female ureter cystoscope, and succeeded in introducing the catheter into the right ureter. I also found the left orifice, but, owing to the too great flexibility of the catheter, I was unable to introduce it. There was no question about having found the right place, but the catheter was not stiff enough. Thirty-six hours after the operation, which was long and tedious, the patient passed a considerable amount of blood with the urine, which I believe to have been the result of trauma in the long-continued effort to catheterize the left ureter. The catheter was left in the right ureter during the entire operation.

DR. JAS. B. BULLITT: The specimen exhibited by Dr. Duncan is illustrative of two things: *First*, that the symptoms produced by fibroids are not always in proportion to their size; and, *second*, that the small tumors are often the most difficult to remove. As Dr. Vance stated, where a fibroid has risen well out of the pelvis it is generally easier to remove than one with a short neck.

I believe that in operating on cases of this kind, we probably neglect a method which would often make the operation much simpler. A good many years ago, and even at the present time, there are operators who remove tumors of this kind through the vagina without a great deal of difficulty, although I believe it would be dangerous for a person who had never done any work of this kind to attempt it. The tumor should be tackled first from the vagina; then the abdomen should be opened, and the operation completed from above. In these particular kinds of tumors where this method is applicable, the operation is simplified very much.

However, a fibroid tumor, just because it is a fibroid tumor, does not necessarily demand surgical interference, unless it produces symptoms, such as hemorrhage, general discomfort, or pressure symptoms. I will cite a case illustrating this point. A woman who had borne a child when quite young, but who had been a widow for seventeen years, married a second time. About two years afterward she became pregnant and miscarried about the third month, but she did not exhibit any unusual symptoms. She became pregnant again, and between the fourth and fifth months of pregnancy she developed great pain about the neck

of the bladder, and finally became absolutely unable to pass urine. Vaginal examination showed that the cervix was high up behind the symphysis, the pelvis being filled by a fibroid mass. Abortion was produced in this woman, and after the uterus was emptied it was found that an old fibroid tumor of small size had been imprisoned in the pelvis, as in the case reported by Dr. Anderson. When pregnancy took place and the uterus enlarged, it could not rise out of the pelvis, but a portion of it arose, and in doing so produced, as it were, a mechanical obstruction to the flow of urine. If this woman does not conceive any more, it is probable that an operation will not be necessary, but if she becomes pregnant she will probably have similar difficulty.

DR. B. C. FRAZIER: I remember one case of this nature which I had under observation for six or seven years. The peritoneum, the uterus, and almost everything was studded with cysts, varying in size from small to fair-sized marbles. This patient lived for quite a number of years, but finally died as the result, I believe of this condition.

I would like to hear some discussion as to the rapidity with which cases of this kind become malignant, and would be glad if Dr. Anderson would give us a little further history of his case—how long it has been under his observation, etc.

DR. DUNCAN: In regard to the symptoms which led me to remove this specimen, I will say that this woman had suffered for a long time, more intensely at the menstrual period, but more or less constantly. The character and intensity of the pain seemed to indicate something more than a mere fibroid condition, such as inflammatory trouble and intestinal adhesions, which was found to be the case. Since the operation she has had no such symptoms, which would seem to indicate that the cause of the trouble had been removed.

DR. J. K. FREEMAN: I saw both of the cases reported by Dr. Anderson, and the one operated on to-day was very unusual indeed. We very rarely see in this city a woman with such a large abdomen, as some physician generally manages to impress upon the patient the necessity of surgical interference.

I think the Doctor was very modest in making the statement that four or five gallons of pus were extracted. We did not measure it, but it looked to me as if there was somewhat more than five gallons.

In regard to the malignancy of the cystic growth, I do not believe it is generally rapidly fatal. The history this woman gave was that this tumor had been developing for about two years. The prognosis in this case is not very good, as the woman was not in good condition for an operation, but there was no hope of improving it.

DR. ANDERSON: I have seen several cases of this nature, one of them about a year ago, in which the patient had papillomatous disease, nothing being involved but the uterus and adnexa. Complete hysterec-

tomy was done, and the woman completely recovered, and I do not believe the condition will ever return.

DR. IRVIN ABELL: I have an instrument to exhibit to the Society to-night called Luy's Intravascular Urine Separator. Those familiar with the development of instruments of this nature know that, until recent years, we have never had anything approaching a satisfactory method of obtaining separate urine from each kidney until Kelly popularized catheterization in 1890. Urethral catheterization in the female has become a matter of ease, but in the male, even with the most improved instruments, it has been a failure. The Harris segregator, which was introduced shortly after Kelly's method, was very satisfactory, with the exception of the fact that it required the administration of a general anæsthetic, and even then it produced considerable pain.

The instrument introduced by Luy, of Paris, consists of three parts; a central shaft with a catheter upon each side. This central shaft has, in the center, a small chain, and this can be let out by turning this thumb-screw, which produces, with the rubber cover, two separate cavities within the bladder.

It is claimed for this instrument that it does not necessitate the administration of an anæsthetic, and is not more painful than the introduction of an ordinary sound into the bladder.

As a rule, enough urine can be obtained in twenty-five or thirty minutes for the purpose of examination. It is well, however, to give beforehand plenty of water, particularly lithia or distilled water. It can be used very easily in the female, and comparatively so in the male. Before introducing the instrument, Luy tested it on 210 persons, and it has since been used by a number of physicians, who report success with it.

One of the reasons for its introduction was the number of cases of infection of perfectly healthy kidneys in infected bladder cases, following the use of ureteral catheters. Dr. Millet reports a case in which hysterectomy was followed by the development of pyonephrosis, due to a ureteral catheter in ureter in order to make its recognition easy during operation. Similar cases of kidney infections have been reported following the use of ureteral catheters in the presence of infected urine.

DR. JAS. B. BULLITT: The instrument presented by Dr. Abell is a very beautiful one. I have had some experience in catheterization of the ureters by the use of the cytoscopic tube, and I have also used another French instrument, that of Mathieu. A mechanical device of this kind, which it is not necessary to insert into the mouths of the ureters, is unquestionably of great value. None of them are agreeable instruments to use, however, and until a person has acquired some skill in their use, the results cannot be vouched for.

I do not believe, however, that this instrument solves the problem satisfactorily, as it is open to certain objections, one of which is that

these water-sheds may be intra-communicative at the top, and the urine may or may not flow from the bottom of the water-shed along the catheters. Of course, it is impossible to see inside and know exactly what is taking place, but it is very easy to conceive of the possibility of the urine not starting to flow until a certain accumulation has taken place, and then the possibility of overflow at the top of the water-shed comes into consideration.

DR. ABELL: In all cases where we are able to obtain distinctly different urines from the catheters, very flattering results have been reported, and I would be disposed to accept the instrument as perfectly reliable, but in cases where the urines obtained are absolutely alike, I would not accept it so readily. Taking it in conjunction with the cystoscope, however, I believe it affords us the best means we have at present for diagnosing such conditions in the male.

PROCEEDINGS OF THE LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS, FEBRUARY 16, 1905.

DR. HIBBITT: This specimen is a multilocular ovarian cyst which I removed some two weeks ago during my service at the City Hospital. This woman was brought in from the Alms House three weeks before the operation, and the question arose as to the feasibility of operating upon her because she was seventy-five years old, very anemic and below par in a surgical sense. The question was not only the removal of the growth but the resisting power of the patient. Her condition demanded relief on account of pressure symptoms.

After due consideration the question arose as to the feasibility of removal entire, or of tapping and withdrawing the fluid. We put the question to her in a plain light, and as she was anxious for relief, she concluded to allow us to remove the cyst. The patient was seventy-five years old, emaciated, depressed, had arterio-sclerosis and generally a poor subject for surgical interference. After caring for her for three weeks, we gave her the benefit of the doubt and told her we would explore and if possible remove the growth, and if not, tap it.

She was under the anæsthetic twenty-five minutes. We used ether as the anæsthetic and had little trouble in opening the abdomen, detaching the cyst and drawing off the fluid. There were no adhesions to the intestines at all; the adhesions were principally to the omentum and liver and the spleen; also adherent to the stomach. In removing the tumor and breaking the adhesions I think we loosened the spleen from its attachments, because we found the spleen lying loose a considerable way from its attachments after we had gotten the growth out. The adhesions to the spleen, liver and to the peritoneum were considerable, and in breaking them up we caused some hemorrhage which was controlled

by the use of gauge strip packed about the bleeding surface, bringing it out through a small button-hole incision in the upper part of the abdomen.

She came off the table in twenty-five minutes. To save as much time as possible we closed the abdomen with silk worm gut through and and through instead of the tier suture. She reacted well from the operation and is now in good condition and has never had an unfavorable symptom. After the operation she occasionally had a temperature in the evening, sometimes 100°, and the pulse never going above 100 per minute.

The treatment after the operation consisted of stimulation and nourishment. She has had six ounces of hot saline solution per rectum three times a day, and whiskey per mouth and per rectum twice a day. She was put on full diet in the course of three days and has had no bad symptoms whatever. In seven (7) days was allowed to set up in bed, and in two (2) weeks was out of bed.

It is an ordinary multilocilar cyst and contained six gallons of fluid; the sac weighed forty-five ounces. There are several little cysts that were not opened; the larger sac contained a dark fluid; the smaller ones opened contained a light or straw colored fluid.

DR. BLITZ: Dr. Hibbitt is to be congratulated upon his results considering the condition and the advanced age of his patient.

DR. RICHARDSON: I would like to mention the fact that ether is said to be contra-indicated in these arterial conditions. I am glad to hear that this woman took ether so well, as chloroform is supposed to be the better anæsthetic in these conditions.

DR. SPEARS: Dr. Hibbitt is to be congratulated upon the result of the operation on a patient of this age. I think an operation of this magnitude, to say the least, is excusable, because it is the only procedure by which we can relieve a woman of this condition. It is impossible to tap a multilocular cyst successfully; we may tap one or two cysts but we cannot get all. I have known of a case in which a cyst of this nature had been tapped over a hundred times. It is very infrequent that we find the adhesions that the doctor mentioned in this case, and as a rule they are unfavorable cases to operate on because it cannot be done quickly. I saw a case recently, Dr. Barnett's case, of a woman about fifty-five, I judge, in which the tumor had grown to such large proportions that life was unbearable to the patient; she could not lie down, and even when sitting up her breathing was difficult from pressure on on the lungs. She was operated on and made an uneventful recovery. I think these are as a rule favorable cases for surgical treatment, but it is rare that we see one subjected to an operation of this magnitude at this age make so nice a recovery.

DR. HIBBITT (*closing*): Knowing that time was an important factor

in this case we had arranged everything for any emergency that might arise. We got the tumor out as quickly as possible. While the assistant was separating the adhesions I was controlling the hemorrhage, and not being able to tie all the bleeding points relied, on the gauze packs to control the hemorrhage. If the loss of blood had been great the woman would have died on the table. Half of the gauze drain was taken out in twenty-four hours, and the balance in forty-eight, and the incision closed by union by first intention.

DR. BRONNER: I would like to report a case of fever. I was called some time ago to see a man of twenty-two. He had what seemed to be lagrippe, temperature 103°, pulse 100, muscular pains all over the body. I put him on aspirin and in twenty-four hours his temperature was normal and the pains were relieved. I saw him the next day and the day after. He was feeling well and there was no reason to go back. That afternoon I was called to see him and his temperature was 101° with very slight pains. I put him on aspirin again, and the next day the pains were gone but he still had some fever and has had for the last few days, but has no other symptoms. There is no previous history of malaise or headache, no nose bleed, no diarrhœa. I put him on quinine but there has been no response to this. He has been running a continuous temperature; there are no rose-colored spots; the Widal test was negative and the Diazo reaction was negative.

I looked up the authorities and they say that in lagrippe the temperature may be continuous, remittent or intermittent, but I do not see very well how this could be lagrippe running this long. He has no other symptom, but this temperature. If any of the members of the Society can throw any light on the case I would like to hear from them.

DR. BLITZ: I expect I know the patient. He is a disagreeable patient. I have treated him several times and he would respond to any kind of treatment given him in twenty-four hours. I have recently had a case with fever like typhoid that lasted for four or five days, and did not respond to quinine. In five or six days the temperature gradually went down and has remained there for the last four or five days and apparently the patient is thoroughly recovered. I believe that Dr. Bronner's patient has typhoid fever. I believe that in some of these cases we do not get the reaction, and I believe furthermore that this case will run a typical course of typhoid. The case might have begun as lagrippe, and still typhoid may have existed at the time, but on account of the treatment with acetanelid dropped to normal and then there was a gradual rise of the temperature—a step-like rise.

I believe the treatment he has got him on is the proper treatment, and I believe the man has typhoid fever.

DR. BRONNER (*closing*): I go on the theory that when the fever does not respond to quinine we are justified in calling it typhoid. The in-

teresting point was the beginning and the character of the onset. There are no symptoms except the fever; the tongue was slightly coated.

DR. ROBINS: I would like to state, if in order, that when the doctors of the city have cases of consumption they should report same to the Health Department. It is required by the ordinance law that they be reported. These records will be of great value to us, and if some member of the society ever wanted to write an essay on the consumptives of the city and the conditions surrounding them and houses where consumptives have lived, such information would be accessible.

I wish to say that the laboratory of the Health Department is prepared to help the doctors of the city in a great many cases. Where they have patients with sore throat, and are suspicious of diphtheria, time can be saved, and the diagnosis quickly cleared up. We are prepared to make the Widal reaction as well.

DR. KINCHELOE: I have a case that I would like to report. I think it is a case of encephalitis; patient, a man, aged fifty. On the 13th of January, early in the morning, I was called to see him. During the night previous he had had what he called an attack of blindness. He awoke and sat up and said he fell over. When I saw him he gave this history. Six weeks ago a tree had fallen and a limb had struck him on top of the head and he sustained a scalp wound about two inches in length. A doctor attended him and made an examination and told him that he did not think the skull was injured. The scalp wound healed readily and he went along at his work. He was a mechanic. He had been going around for over six weeks after that and this attack came on suddenly in the night. I saw him the next morning, his pulse was 46, and his temperature subnormal; rational, and suffering some little pain. I saw the case and I did not know exactly what to do. I put him on the bromides and the iodide of potassium and on strychnine. At that time the pupils were not dilated, but a week later the pupils became dilated. After getting him under the iodides well the pupils came back to normal, pulse 70 to 80, and the temperature practically normal. Even if he would turn over in bed or rise up he would have what he called blind spells; he was not delirious until a week after I saw him and staid that way for a few days, but at the end of three weeks he was getting along pretty well; he sat up in bed and could hold a knife and fork in his hands.

A week ago he sent for me; he had gotten so that he had dropped the knife and fork. The man became delirious and has remained that way. We did not know what to do. His family would not allow him to be operated on. He has been in this condition for a week- He seems to be giving symptoms of softening of the brain. I would like to know if you gentlemen think it is necessary to trephine him at the site of the injury. There is no depression of the skull. I would like to know what the Society thinks is the proper thing to do.

DR. SPEARS: Is he a drinking man?

DR. KINCHELOE: No, he gets drunk occasionally on court days, but he is not what you would call a drinking man.

DR. RICHARDSON: It is a very interesting case. I would think that the proper treatment is to trephine in the region of the original injury—in the region of the superior longitudinal sinus, not right over it but to one side. In patients in which we have an encephalitis the pulse usually runs higher and the temperature higher than in the case you report. The time elapsing after the receipt of the injury before the symptoms developed would certainly point to encephalitis. It does come on later.

DR. SPEARS: I think the doctor would be justified in having trephining done. While the symptoms are not marked enough to point to any particular locality, still he has the history of severe blow, and is becoming progressively worse, and I believe the man should be trephined at point of injury and given benefit of the chance. The operation itself is not particularly dangerous, and while a fracture or even a clot may not be found, the relief of pressure which exists somewhere may bring about a fortunate recovery.

[From our Dublin Correspondent.]

THE LATE PROF. BIRMINGHAM, M. D.

The Dean of the Medical Faculty, Sir Christopher Nixon, addressing the professors and students of the Catholic University, Dublin, Ireland, spoke as follows:

GENTLEMEN:—Since I became connected with the School of Medicine, more than a quarter of a century ago, I have had to make on several occasions obituary references to colleagues with whom I was associated; but I can truly say that I have never had to undertake so sad or so painful a duty as that which falls to my lot to-day in referring to the death of my former pupil, colleague, and devoted friend, Professor Birmingham. In the full vigor of a brilliant and well-trained mind, after passing the period of storm and stress through which all scientific workers must pass, when all that brings fame and fortune is almost within one's grasp, "death breaks the vital chain" and robs both him and us of the fruits for which the seed had been so industriously sown. The whole thing is unutterably sad, too sad indeed for empty expressions of regret. Just eighteen years ago Prof. Birmingham succeeded me as Professor of Anatomy, and from that time up to the present he held a dual position in the school. He was responsible for the working of the anatomical department; and, as Registrar, upon him devolved the organization of the school as a whole, the several details of its financial arrangements, and, in many respects, the work for which, as Dean, I am nominally responsible. In every phase of his work he was brilliantly successful; and yet amidst all his labors he found time to make for himself a name distin-

guished among the ablest men of his own special science as a man of original powers of observation and research.

If I might briefly analyze Birmingham's splendid abilities, I would do so under three heads—as a teacher, as an original observer, and in reference to those qualities which made him personally so attractive to all who knew him. As a teacher, he was the nearest approach to the ideal that I ever had experience of. With the most thorough grasp of his subject, he possessed the rare gift of making it transparently clear, and by a bright and vivid description invested it with such interest as to excite the rapt attention of his pupils. Whatever the subject matter might be, it was presented in a way so striking and complete, so full of illustration and so precise in form, that even to the first year's student the description of a bone was as interesting as the practical points in surface anatomy were to the most advanced student.

Altogether apart from his work as a teacher, work which, taking into consideration its constancy and laborious nature, must have kept his hands full, he found time to carry on the work of research with such brilliancy as to make us realize what he might have done if his had been the usual span of human life. His three papers on the mastoid region, published in 1893 (so important in their surgical aspect as to form the basis of operative procedure in this region), made the name of the young anatomist so well known that a leading aural specialist came to Dublin to confer with him and examine his preparations. His work on the position of the stomach, the anatomy of the peritoneum, and of the abdominal viscera generally is, in some respects, of an epoch-making character, while it exhibits a capacity for investigation which raised the author to a high level as an accurate, painstaking, and original observer. When Prof. Cunningham brought out his great work on anatomy, a work representing the collaboration of the leading anatomists of the whole English Empire, with a generous appreciation of a rival professor's services he entrusted the portion of the work dealing with the anatomy of the abdomen to Birmingham, with the result that the concensus of expert opinion gave the palm of merit to Cunningham and Birmingham for their respective articles.

The last aspect under which I may refer to Birmingham was his wonderful capacity of organization, and his striking personality. From the time he took up the Registrarship of the school, in 1887, the institution entered upon its course of progress in every respect and in every detail. Its finances were managed with the ability of a chartered accountant; each professor realized how essential it was to support in every way the man who was devoting his life to the vindication of a principle, and in antagonism to a bitter and relentless denial of educational rights and privileges; whilst the students felt that they were under the influence of one who exacted their respect and gained their affections. Not that Birmingham employed the customary aids to gain popularity or notoriety;

he was a perfectly straight man, with the highest ideals of what was due from man to man, and it was this that largely explained the singular influence which he exercised upon students. He was their truest friend, never more so than when he reproved their faults, set his face against idleness or bad habits, and enforced that degree of discipline and decorum, which, I am glad to acknowledge, is the characteristic of the modern type of the student of medicine. But if he was a disciplinarian, how just and gentle was his rule, how partial and tolerant his methods, how earnest and thorough was his desire for your welfare, how unassuming and unvarying his relations with you all. You might say of him:

"Rich in saving common sense
And, the greatest only are,
In his simplicity sublime."

We have now the largest and most prosperous medical school in Ireland, and it is largely owing to the untiring labor and wonderful talents of Prof. Birmingham, my pupil, my colleague, and my friend.

Recent Progress in Medical Science.

PEDIATRICS AND THERAPEUTICS.

IN CHARGE OF

GEO. B. JENKINS, M. D.

Professor of Neurology and Physiology of the Nervous System.

PEDIATRICS.

Modern Pediatrics.—Escherich reviews the various steps taken by pediatrics in its development into a science, and which have considerably extended and clarified the study of pediatrics. Modern pediatrics exhibits a scientific structure including all disturbances of the life processes, arranged according to scientific principles, and in its completeness not reached by any other specialty in medicine. Only a small number of diseases can be considered peculiar to childhood, because they are caused by events which cannot occur in the life of adults, such as the change from intrauterine to extrauterine life, and growth and development. The key to the understanding of the special pathology of the infantile organism is to be found in the study of developmental processes. Between the growing organism of the child and that of the completely-developed adult great differences exist in the reaction called forth by the diseased process, the variations which change constantly in the course of childhood. The author also considers the threefold division of childhood accepted by Vierordt, which he accepts as the most scientific as well as practical.—*Am. Med.*

Relation of Epilepsy to Convulsions in Children. — Moon urges that a serious view be taken of all convulsions occurring in infancy, and says that we are justified in supposing that even a single convulsion in childhood will end with itself and have no further evil influence on the life of the child. For most of the cases which arise in connection with an extrinsic cause also have a history of heredity or alcoholism in the parents, which are both predisposing causes of epilepsy. Even where there is no such history, and it is assumed that a peripheral irritation is adequate in itself to produce a convulsion in a perfectly normal brain, the mere fact of the convulsions being often repeated makes the brain cease to be normal and creates a distinct pathologic basis for the production of epilepsy. It is impossible to give the precise relation of such convulsions to epilepsy, but Moon believes that a much greater difference is made between these two affections than the facts seem to warrant. —*Lancet, Lond.*

Scarlet Fever.—Seibert, *N. Y. Med. Jour.*, treats extensively of this condition. Among his conclusions are: (1) It is endemic in New York City; (2) most common among school-children; (3) chief centers for contagion are the schools; (4) direct contact is necessary for infection.

Under the head of treatment he uses a 5 or 10 per cent. ichthyol-lanolin ointment applied to the entire cutaneous expanse two to four times daily and rubbed in well; and disinfects the pharynx with a 50 per cent. resorcin alcohol solution; as soon as the throat symptoms appear the patient is placed in the intubation position, a plug of absorbent cotton saturated with above solution is quickly passed into the naso-pharynx on one side of the uvula, held there a few seconds, and same upon opposite side, when surface of mucous membrane turns milky-white. Repeat until this result is obtained; these applications are to be made two or more times daily, according to the severity of the case, until the throat is free from exudate. Favorable amelioration of symptoms is noted in a few hours.

Fischer (J. A. M. A.) sums up the prophylatic measures in infantile tuberculosis as follows: (1) Insist on each infant being breast-fed; (2) if maternal nursing is impossible, secure wet-nurse; partially bottle-feeding both infants if necessary. The secret of the vitality and endurance of the tenement-house hordes is that they are, or have been, breast-fed. The two prophylactic measures are (1) breast-milk, (2) fresh air and sunshine.

Pneumonia in Infants. — Northrupp, *Med. Record, N. Y.*, summarizes the treatment as follows: (1) Castor oil to clear the field; (2) fresh air, cool and flowing; it reddens the blood, stimulates the heart, improves digestion, quiets restlessness, and combats toxæmia; (3) keep baby's feet warm and its head cool; (4) plenty of water inside and out; (5) quiet and rest; (6) correct feeding to prevent fermentation and gas formation; (7) antipyretics, water only; (8) heart stimulants, fresh air,

hot foot-baths, and relief of tympany; medicinal stimulants, whisky and strychnia.

Eneuresis.—Rey, *Berliner Klin. Woch.*, insists upon the necessity for making a urinalysis in this condition, stating that the most frequent causes are: (1) Infection with the colon bacillus; (2) an excess of ammonia salts; (3) an excess of phosphates; (4) or an excess of uric acid, and suggests salol as the best drug for meeting these indications.

Pertussus.—Passalacqua, in *Med. Orientale*, injected 1,000 units of diphtheria antitoxin in cases of whooping-cough, and claims improvement in seven cases; broncho-pneumonia had developed; these were also improved.

Cholera Infantum.—Sterrett says there are two important conditions to be met: (1) Cleanse and asepticise the alimentary canal; (2) determine the flow of blood to the periphery. He uses zinc sulpho-carbolate for the antiseptic, and a granule of atropia sulphate, gr. 1-250, for each year of the child's age, to twenty-four teaspoonfuls of water, giving a teaspoonful of the solution every fifteen or thirty minutes, until the skin is well reddened. If there is much depression, he adds strychnia arsenate, or, in the very young, brucine. If there be much pain, add codeia sulphate, at the same time practicing the usual hygiene management and after-treatment.

Infant Feeding.—Kardamatis, *Grece Med.*, ranks buttermilk very highly as an infant food, this being the food employed by the ancient Greeks. He finds it especially serviceable in the acute and chronic dyspeptic conditions, but not in the infectious.

Holt claims that disturbances of digestion resulting from an excess of fat are quite as serious, if not quite so obvious, as those which are due to too high proteids, stating that some, instead of using the ordinary milk with 4 per cent. fat, use rich Jersey milk of 5 or 5.59 fat; others increase the fat almost indefinitely to relieve constipation, and thus produce a diarrhœa.

Chapin emphasizes some of the newer points: (1) The reaction of cow's milk cannot be tested by litmus paper; (2) cow's milk is not acid as compared with woman's milk; (3) the effect of adding an alkali to cow's milk is this, the rennet ferment of the stomach will not curdle milk in the presence of an alkali, and no stomach digestion can take place in the absence of acid, and the milk passes into the intestine in a fluid state. Of course, curd formation in the stomach is prevented, but at the expense of the stomach's functional activity, and the preferable method is to add gruels to the cow's milk, as these prevent the formation of hard curds without changing the normal stomach acidity.

Diet After the Age of One Year.—Griffith advises that the infant should be weaned at from the age of ten to twelve months. When possible this should be accomplished gradually, only one bottle of food

being given at first, and this of a strength less than mother's milk, thus enabling the child to accustom itself to the new food. The number of bottles and the strength of the mixture are increased gradually until at the age of a year the food should consist of milk slightly diluted. The child should be weighed systematically twice a week during the weaning, in order that no undiscovered loss of weight takes place. After the child has been weaned entirely and has become accustomed to the new artificial food, it is well to add to the food a concentrated amylaceous substance such as barley jelly or arrowroot jelly. The proportion of two rounded teaspoonfuls of barley flour or arrowroot to a pint of water, cooked in a double boiler for ten or fifteen minutes, makes the proper strength. This may be added to the food in the proportion first of one and later of several teasoonfuls to each bottle, the addition to be made while the cereal substance is still hot. The number of feedings during this period has been reduced from three hours to three and a half or four hours, depending on the requirements and habits of the child. The amount of nourishment should be from 8 to 10 ounces at a feeding.

THERAPEUTICS.

Pertussis.—Borchon uses calcium sulphide to saturation (½ to 1 gr. every hour), which greatly ameliorates symptoms and shortens the duration by one-half. It is also a prophylactic measure of value.

Cancer.—Wilson used uranium salicylate in a case of cancer—recurring after an operation for cancer of breast and considered to be hopeless. He gave gr. v. daily at first, and gradually increased until in six months patient took gr. xx daily, with remarkable improvement, patient being able to pursue her vocation—seamstress.

Malaria.—H. C. Wood reports 425 collected cases of malaria treated with methylene blue, with 362 recoveries, and thinks the results were better than those from quinine.

Theobromine.—Gallavardin and Pehn claim that theobromine administered in gr. viii cachets, one to four times between noon and bedtime, will produce a satisfactory sleep in the insomnia of cardiac affections.

Hirschlaff and Engles have separately recommended bornyl valerianate in the treatment of the various neuroses, claiming good results, without any disagreeable secondary effects.

Digalen.— Bibergeil, *Ber. Klin. Woch.*, states that digalen (soluble digitoxin) allows accurate dosage, gives speedy results, does not upset the stomach, nor present the disagreeable cumulative effect of the regular digitalis. It is best given in doses of 1 c.c., in sweet wine or vichy, after meals. Nannyn used it extensively.

Calculi.—Jaenecke finds that a decoction of birch leaves, administering a cupful night and morning, will dissolve vesical calculi. They will be passed as sand.

Keloid.—Presno, *Revista Havana*, reports cure of a rebellious keloid after four injections of a 15 per cent. glycerine solution of theosinamine. The injections were made every third day into the tumor.

Epilepsy.—Allan McLane Hamilton, *Med. Record*, summarizes the treatment of epilepsy as follows: (1) We should, besides every measure that will favor elimination, regulate the dietary so that the idiosyncrasies of the individual shall be taken into account, nitrogenous foods restricted, and no large amounts of food allowed at one time; (2) prevent intestinal auto-intoxication by using chologogues, digestants, and antiseptics; (3) every measure to prevent lighting up of gross intercranial lesions and to equalize the circulation; (4) give the bromides only in sufficient quantity to diminish the activity of the cortical motor cells.

Hecht, of Bethnen, overcomes the disagreeable effects of digitalis by combining quinine and strychnine with it, and in heart cases finds success from:

℞ Fol. digital. pulv.,
Quin. hydrochlor.,.....aa gr. xx.
Ext. Nux Vom.,..... gr. v.
M. Ft. Pil. No. XXX.
Sig. One or two pills three times daily.

Hay Fever.—Fulton (J. A. M. A.) highly commends the local use of quinine sulphate in hay fever, using a spray of a saturated solution of quinine sulphate in distilled water, spraying the nose well from four to six times daily, and following it with an ointment of quinine sulphate, gr. xxx, to plain vaseline, ℥i, to the parts, continuing both indefinitely, and claims remarkable results from this treatment. If the patient cannot stand the bitter taste in the throat, use euquinine.

Iodine.—Pugh, *Amer. Med.*, claims excellent results from the iodine treatment of suppuration, using it in (1) scalp wounds, (2) leg ulcers, (3) inguinal adenitis, (4) vaginitis, cleansing the area and applying the iodine to all parts. In every instance great benefit was noted.

Local Application.—Alcohol, either sprinkled upon or saturating four or five layers of cheese-cloth, is applied to the painful area, and, if upon a thin skin, lightly covered; if thick, covered with an impervious dressing, will produce a local anæsthesia, with dilation of the vessels and great relief from pain.

Smith covers a piece of gauze with a layer of vaseline, sprinkles some chloroform upon this, and applies it to a boil. This smarts at first, but soon relieves. Repeat frequently, and the boil soon softens and opens, much to the patient's satisfaction.

THE
AMERICAN PRACTITIONER & NEWS.

"NEC TENUI PENNÂ."

F. W. SAMUEL, A. M., M. D., A. D. WILLMOTH, M. D., } EDITORS. S. B. HAYS, M. D., MANAGING EDITOR.

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Editorial.

TUBERCULOSIS.

The Delegates from Kentucky to the Anti-Tuberculosis League, which is to be held in Atlanta, Ga., April 17th to 19th, have recently been named by Governor Beckham. We trust that the selection has been made with great care, and after thoroughly considering the fitness of each man as a representative.

That the whole medical profession is intensely interested in the study and prevention of the "Great White Plague," is not to be denied, and that some of the men whose names appear as delegates are of considerable prominence, is also true, and the only question which arises in our minds, is whether these men who are to represent Kentucky, are really giving any large portion of their time and experience in planning an effectual campaign along the lines of education and enlightened understanding of the subject.

We believe the Governor has endeavored to make these selections with regard to the actual qualifications of the physicians named. These qualifications being not necessarily the prominence of the physician, but rather his comprehensive understanding of the matter in hand, executive ability and his bringing to the work a large amount of perseverance and enthusiasm.

We trust that the League will accomplish some real work, as we are in heartiest sympathy with the movement, and we only hope that the valuable time of the organization will not be occupied in discussing what

the preachers would term "Denominational Differences," which have no actual bearing on the subject, and which only serve to delay the transaction of important business.

Unless each representative enters the League, resolved to discuss the questions in a broad minded way, and unless he understands that there can be nothing accomplished except by reaching a broad and common basis where *all* agree, the League will find itself pledged along lines which may in future only serve to hamper and embarrass its field of usefulness.

It occurs to us that it might not be a bad plan to have a regularly appointed publicity committee, whose duty it should be to instruct the general public by means of lectures and literature, thus with the intelligent co-operation of the public press, the people would soon come to understand at least the "exoteric" doctrine of the care and prevention of tuberculosis.

There are three or four points of vital importance, which need to be thoroughly impressed upon our minds, and yet these are points upon which all of us practically agree. We believe that nothing has worked a greater hardship upon the person suffering from tuberculosis than the epidemic of "Phthisiophobia," which seems to have attacked not only laymen, but apparently intelligent doctors as well, and it would be no insignificant work to inaugurate intelligent measures whereby we may eradicate this ungrounded fear of contracting consumption by casual contact, or even by prolonged associatian unless the sputum and dejecta are not properly disposed of, AND THEY ARE NOT PROPERLY DISPOSED OF UNLESS THEY ARE BURNED.

Climate has for generations held the centre of the stage, and we have become so accustomed to having our friends and patients exiled in some foreign land, simply because it happened to be at a little higher altitude and had less humidity, that it is hard for us to break the bonds of climate tyranny.

Our views on climate are gradually undergoing a change and we heartily indorse the following words of Eugene Woods, in *Everybody's Magazine* for June, 1904: "The open window is good, but if you have consumption it isn't good enough. You have urgent need for vigorous health if you are to make good, and more than make good, the ravages of a consuming disease. Out of doors is where you get pure air. WHERE THE OUT OF DOORS IS DOES NOT GREATLY MATTER. The only advantage of a warm, dry climate is that it is possible to stay out of doors all the time, day and night, without much extra preparation. No climate is so good that consumption will not start in it. It may become more dangerous because it is so good. Consumptives go there in large numbers and spit without care, and so the place becomes infected with the germs."

The greatest work which the League has before it, is addressing it-

self to the business man, and presenting the subject on its purely economical merits. We may talk humanity, present scientific facts and plead for charitable consideration, but we will not gain our greatest vantage until we prove that the building of sanitary tenements, the establishment of tuberculosis hospitals near our cities and every other means for cure and prevention of tuberculosis, are all nothing more nor less that purely business propositions looking towards the economy of health, life and money, and that they are also investments returning a high rate of interest.

We are pleased to notice that several commercial organizations were recently the guests of the Commercial Club at an open meeting, where the subject of tuberculosis was presented by a distinguished member of the bar, and was interestingly discussed by business men and physicians who were present. This is certainly a step in the right direction, and we understand that an Anti-Tuberculosis Society, which has recently been organized in this city, is to be given credit for this most excellent means of arousing interest in the subject, and we also hear on good authority that funds have already been donated looking toward the establishment of a Tuberculosis Hospital near our city.

May the good work go on, and we pledge our hearty co-operation in bringing about a better, truer and more intelligent understanding of this disease, which has for so long seemed to mock at our efforts towards extermination.

DUNNING S. WILSON.

No doubt many medical journal readers have read Dr. E. S. McKee's article recently embracing some aspects of professional secrecy. The following from the *London Lancet*, Feb. 18, 1905, may add some timely remarks to those opinions already formed:

A QUESTION OF PROFESSIONAL SECRECY.

A paper read recently before the Obstetrical Society of Cincinnati, U. S. A., by Dr. E. S. McKee, had for its title "The Ethics of Gonorrhoea in the Female," and for its subject the difficulties which may beset the medical man in preserving the secrets of his patient consistently with his duty to society where venereal disease in a woman is concerned. In a case of this kind it is hardly necessary to point out that the knowledge acquired by the medical practitioner in the exercise of his profession is not confined to the fact that his patient suffers from a disease. It may place her reputation in his keeping, so that it is in his power to destroy it, or circumstances may come under his observation during his treatment of her which may render him the one person who can effectively maintain her honor. On some occassions, again, he may acquire the secret of the dishonor of a man or of a woman other than his patient. In short, the complications that may arise are numerous and each case must be dealt with according to its merits, always keeping in mind certain

broad principles of professional conduct. In the paper referred to a curious instance is given of a case in which the duty of the medical man was not altogether clear and in which he had a legal decision to guide him with which he did not agree.

A young man came to Dr. McKee and confessed that he had infected his wife with gonorrhœa. Dr. McKee successfully treated her for it. Meanwhile the husband confessed to his wife also what he had done and apparently allowed her to infer that her medical attendant knew to whom her desease was due. Later on divorce proceedings were initiated by the wife and Dr. McKee received the United States equivalent to a subpœna, a somewhat drastic form of summons enforced by the presence of a constable, to come and testify to what the husband had told him. This he declined to do. The American law accords privilege to knowledge obtained from the patient in the course of professional treatment, but the judge decided that this did not apply to the evidence sought for in the instance before him on the ground that the wife was the patient and that the confidence, the revelation of which was sought, was not her's but her husband's. In England no privilege attaches so as to protect the medical man in any case, but the principle upon which he resists the effort to extort from him in the witness-box the secrets of his patients is, no doubt, that upon which the American law was originally founded.

If we regard the question decided by the judge as a matter of principle, we shall see that the point is one not quite easy to determine offhand. The husband, no doubt, spoke in confidence to Dr. McKee, and was entitled to have his communication jealously guarded. On the other hand, the wife was the patient, and directly she alleged that she had contracted venereal disease and had been corroborated as to this by her medical attendent her honor was impugned unless she could show that her husband and no one else had infected her. Dr. McKee questions the soundness of the judicial decision, and observes probably correctly that if he had attended the husband for gonorrhœa as well as the wife he could not have been ordered to give evidence on the subject. It may be considered, however, that on the question of principle the medical man is not bound to keep a secret which the person confiding it to him has himself given away, as he is in cases where his confidant has done his best to preserve it. The husband in Dr. McKee's case had told his secret to his wife, and he had apparently told her or had allowed her to infer that he had told her medical adviser. In such circumstances he certainly had no right to complain if the medical man obeyed the judge's order without demur.

THE Louisville Society of Medicine and Surgery, held its annual banquet at the Galt House, Monday evening, March 20, 1905. A very full attendance graced the evening, and enjoyable toasts were offered by some of those present. This is one of the most flourishing societies in the State as the membership is large, as well as the regular attendance, and the papers and discussions are always teeming with ability and interest. Of the membership of forty, some thirty-five were present.

EDITORIAL NOTES.

IN Statuary Hall at Washington, D. C., there are two vacant spaces which have for some time been allotted to Kentucky for the statues of any two of her famous sons she may select. As far as our interest is concerned we agree with the Henderson County Medical Society, who have decided to present to the Legislature the claim of Dr. Ephraim McDowell, the "Father of Ovariotomy." Statuary Hall is not at all crowded with statues of doctors; mostly statesmen having been selected. Outside of our professional feeling in the matter, we believe the State should early utilize the space so kindly allotted and certainly the other statue should be no other than Henry Clay.

THE *Physician and Surgeon* of February, 1905, states that the Birmingham, Ala., Board of Health recently passed an ordinance requiring that cases of tuberculosis be reported to the City Health Officer, also saying that New York and Boston were the only two other American Cities that had such an ordinance. Louisville has such an ordinance as well, but is worded that all infectious diseases should be reported, and the Health Officer has specified on many an occassion that tuberculosis came under this head. We may add the ordinance is not always enforced in any city.

THE *American Journal of Surgeon and Gynecology* has been purchased by Dr. Joseph DcDonald, Jr., who has severed his connection as Managing Editor of the *International Journal of Surgery*. The new office of the new Journal, *The American Journal of Surgery*, will be 92 Williams St., New York City. This move will enable Dr. McDonald to publish an independent Practical, Surgical Journal, which he states will be under absolute professional control.

THE February meeting of the Owen County Medical Society was held in the Odd Fellows building, February 2, 1905. President Dr. J. C. B. Foster presiding; attendance was good and intense interest was manifested, several papers being read and discussed. Dr. J. C. B. Foster presented an excellent paper on scarlet fever. The society has instituted a "question box," which greatly increases the interest of the work; Dr. J. A. Estes read a paper on hysteria and Dr. M. Bell a paper on tonsillitis.

THE United States Civil Service Commission announces an examination on April 26–27, 1905, to secure eligibles from which to make certification to fill a vacancy in the position of physician (female) in the Government Hospital for the Insane, Washington, D. C., at $1,500 per annum and quarters, and vacancies as they may occur in any branch of the service requiring similar qualifications. For particulars address the Commission for Form No. 421 and list of places of examination.

Southern Medicine and *Gaillard's Medical Journal* have recently consolidated under the name of *Gaillard's Southern Medicine*. We wish them success in their recent change.

WE are sorry to know the death of Dr. Thomas H. Manley, of New York City, on January the 13th, dying of pneumonia. He was professor of Surgery in the New York School of Clinical Medicine.

WISE County Medical Association met at Coburne, Va., March 22nd, 1905. An interesting programe was carried out as usual. Dr. J. B. Wolfe is President, and T. M. Cherry, Secretary.

DR. M. K. ALLEN, the Health Officer of Louisville, Ky., was married to Miss Jessie May Rubel, March 1st, 1905.

BATTLE & Co., of St. Louis, have just issued the fifth of a series of twelve illustrations of the Intestinal Parasites, and will send them free to physicians on application.

BOOKS RECEIVED.

Practical Medicine Series.—Vol. 2. General Surgery, edited by Jno. B. Murphy, M. D. Series 1905. The Year Book Publishers, 40 Dearborn St., Chicago. 1905.

Practical Medicine Series.—Vol. 1. General Medicine, edited by Frank Billings, M. S., M. D., and J. H. Salisbury, M. D. Series 1905. The Year Book Publishers, 40 Dearborn St., Chicago. 1905.

The Urine and Feces in Diagnosis.—By Otto Hensel, Ph. G., M. D., and Richard Weil, A. M., M. D., in collaboration with Smith Ely Jelliffe, M. D., Ph. D. Illustrated. Lea Bros. & Co., Philadelphia and New York. 1905.

The Ophthalmic Year-Book.—A digest of the literature of ophthalmology, with Inder of Publications for the year 1903. By Edward Jackson, A. M., M. D. The Herrick Book and Stationary Co., Publishers, Denver, Col. 1904.

Twenty-ninth Annual Report of the New York State Reformatory at Elmira N. Y.—1904 Reformatory. The Summary Press. 1905.

The Influence of Growth on Congenital and Acquired Deformities.—By Adoniram Brown Judson, A. M., M. D. Profusely Illustrated. New York, Wm. Wood & Co. 1905.

A Practological Clinic.—By John L. Jelks, M. D., Memphis, Tenn. A reprint from the *Memphis Medical Monthly*, Feb., 1905.

The Relation of Preventable Disease to Taxation.—By Henry B. Baker, M. D., Committee of the State Board of Health on that subject. A phamplet issued by the State Board of Michigan. Feb., 1905.

First Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis.—Feb. 1, 1903 to Feb. 1, 1904. Published by the Henry Phipps Institute, 238 Pine St., Philadelphia. 1905.

Lea's Series of Medical Epitomes.—Edited by Victor C. P. Pedersen, M. D.

Hollis' Epitome of Medical Diagnosis.—A Manual for Students and Physicians. By Austin W. Hollis, M. D., Attending Physician to St. Luke's Hospital; to the New York Dispensary, etc. In one 12mo volume of 319 pages, with 13 illustrations. Cloth, $1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

"PAINFUL MENSTRUATIONS IN VIRGINS."

Dr. Wm. Sellman, of Baltimore, read this paper and pointed out the necessity of giving relief to young unmarried women who suffered from painful menstruation. He considered the forms of dysmenorrhæa that could be relieved by operation. These means should not be of a character to unsex the patient. Lastly he spoke of that class of cases in which dysmenorrhœa was due to a general systematic neuralgia. In these cases, electricity in its different forms afforded great relief. It was doubtful in many of these cases whether the removal of the appendages would accomplish anything more than bring about a premature menopause.

Dr. H. W. Longyear, of Detroit, stated that in operating, if one ovary or a part of an ovary could be saved he did so. He would enter a protest against operating on cases of dysmenorrhœa that were of short duration in young girls.

Dr. William Humiston, of Cleveland, Ohio, has seen cases with a narrow, conical os, menstruating without the least signs of distress, but the moment an inflammatory condition of the mucosa was added, that moment the patient began to have painful menstruation.

Dr. D. Tod Gillian, Columbus, Ohio, spoke of the undeveloped condition of the uterus as a cause of dysmenorrhœa. It was not the result of stenosis of the internal os, but to an unripe condition of the uterine tissues.—*Med. Review of Reviews.*

The thing that surprises us most in the above article is that not a single voice was raised to proclaim the almost magical effects of antikamnia tablets in such cases. We can readily recall quite a number of cases in which extreme suffering (dysmenorrhœa) was promptly relieved, not by operation, but by antikamnia tablets. Evidently these men were surgeons only.—Ed. *Massachusetts Med. Jour.*, January, 1905.

Pepsin is undoubtedly one of the most valuable digestive agents of our Materia Medica, PROVIDED A GOOD ARTICLE IS USED. ROBINSON'S LIME-JUICE AND PEPSIN, (see page xiv, this number), we can recommend as possessing merit of high order. The fact that the manufacturers of this palatable preparation use the purest and best Pepsin, and that every lot made by them is carefully TESTED, before offering for sale, is a guarantee to the Physician that he will certainly obtain the good results he expects from Pepsin.

LISTERINE DERMATIC SOAP.—The Lambert Pharmacal Co. has lately inaugurated a new venture in the way of an antiseptic soap which passes the virtues of Listerine in so far as a soap may. It is only a matter of recent years that especial attention has been given to producing soaps which shall possess a degree of curative power in diseases of the skin and in the care of surgical conditions. A considerable variety of such soaps is now on the market and the mission of the lot is wide; it is safe to say that Listerine Dermatic Soap will prove one of the most serviceable, and will soon make for itself a popularity with the profession in keeping with that which has been established by Listerine.—*Medical Fortnightly, Jan. 25, 1905.*

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

WILLIAM OSLER—AN ADDRESS.*

BY JOS. W. IRWIN, M. D.

GENTLEMEN—FELLOWS OF THE CLINICAL SOCIETY—As physicians we are much interested in the startling statements of one of our number who says that all men are comparatively useless after the age of forty, and he concurs with Anthony Trollope that men should be chloroformed at sixty and the world would get on just as well without them.

We cannot agree with the views of Dr. Osler, either seriously speaking or jesting, and I thought it would be well to speak briefly on this subject.

Wm. Osler was born in Canada and graduated from the medical department of McGill University. He came to the United States in the seventies and was given a place in the medical department of the University of Pennsylvania, the mother college of our country, it having received its charter from England in 1709. His work in bacteriology attracted attention, and a few years later he was induced to organize the medical department of the Johns Hopkins University in Baltimore. He showed efficiency in his new field and also wrote and compiled several interesting essays. A few years ago, after he had passed the age of forty he wrote a book on the practice of medicine and in it gave statistics on diseases which prove of prognostic value to busy practitioners. His book was of value, more especially as it treated of the bacterial cause of disease, and not since the distinguished Sir Thomas Watson, in his old age, delivered his lectures on the practice of medicine, sixty years ago, have we been treated to better English on the subject.

Perhaps two slight pardonable criticisms might attach to his work:

* Read before the Louisville Clinical Society, March 7th, 1905.

one brevity in rendering hard for new beginners to understand some diseases, and the other, the excessive personal equasion of its author. Recently Dr. Osler has been called to fill a high place in the great University of Oxford, England, and as a parting adieu to his adopted countrymen, who have given him full credit for what he has done and said, he as much as informs them that there are erroneous methods of teaching medicine in this country and no good physician can be made outside of the Johns Hopkins University. How did we learn to understand his worth? Do not the good works of American doctors reflect the highest degree of human intelligence wherever civilization has its strongest hold? Is this not a natural sequence when we come to consider the ancestry of the American people? Was it not the people of the purest blood and strongest brain of the old countries that formed our ancestry? And do we not now prohibit the infirm of other countries coming within our borders?

There is much room for accusing Dr. Osler of inconsistency in the facts that he compiled a book when he acknowledges his greatest period of usefulness had ended, and that he accepted a place in the great University of Oxford sixteen years after he is mentally out of date.

May not his address be considered in the light of his own reasoning as the ravings of a man whose sands of life are within four years of being exhausted? Can it be that he is judging others by his own standard, and if so his barrel has been tapped by too many streams? Can he mean that man's vitality is worn out at sixty and that he is no longer useful to his State and country? If so, we would remind him of the startling illustration in the case of Dr. Laudeville who was married ten times, and when he was 101 years of age, a child was born as the result of his last union. Certainly this shows (although it may prove an exception) that man is not useless at any definite age under 100 years.

When we contemplate the development of the brain, which physiologists agree ceases about the forty-second year of life, if man is useless at forty, its growth should have ceased before that time.

The period of life between twenty-five and forty is chiefly the time when muscular development is at its highest point. The air-castles, the effervescence of youth, the vaporings and the uncertainties, are particularly present in this period, and only after the age of forty do men settle down to the most serious thoughts. There may be exceptions.

When anything is accomplished in life before the age of forty, it is usually the result of accident or experiment, and not the result of mature or careful thought.

Man learns by his mistakes as well as by his successes, and the fifteen years referred to is the principal period when mistakes occur most frequently. Why was it said by a writer that "We learn from the wisdom of age and are cheered by the sallies of youth?"

Dr. Osler has lived long enough in the United States to know that history contains enough to dispute his views.

The discovery of the anesthetic and the institution of laparotomy by two American physicians must surely have conferred lasting benefits upon the human race.

Abraham Lincoln never did anything of great importance until after the age of fifty.

General Grant achieved his greatest triumphs after he had passed forty.

James A. Garfield, of humble origin, became famous after that age.

Thomas Edison made his greatest discoveries since he has passed his fortieth year.

Benjamin Franklin discovered electricity when nearly fifty.

Bismarck and W. E. Gladstone achieved very little fame before the age of fifty.

Jenner discovered the value of vaccination after he had passed well into the useless forties.

Harvey discovered the circulation of the blood after that period, and yet we are told that all the great discoveries which have benefited the human race have been made or instituted before the age of forty, and without the aid of persons over forty, the world would have been just as well off. Possibly ignorance might have been bliss.

Locke in his fifty-eighth year wrote his essay on "The Human Understanding."

Gibbons wrote "The Decline and Fall" in his fifty-first year.

Kant in his fifty-seventh year wrote "The Critique of Pure Reason."

Samuel Johnson wrote his dictionary at the age of forty-six years.

"Pilgrim's Progress" was written by Bunyan in his forty-fourth year.

The History of England was written by Macaulay in his forty-eighth year.

Michael Angelo built the great dome of St. Peter's after he had passed the age of eighty.

The law of gravity was discovered by Newton at the age of forty-five.

Milton wrote "Paradise Lost" at the age of fifty.

Robert Fulton equipped the first steamboat at the age of forty-two.

America was discovered by Columbus in his forty-sixth year.

Galileo made important astronomical discoveries after the age of sixty —and we might go on and add to this list numerous other discoveries of lesser importance by men after they had passed their fortieth year. Numerous works of art were instituted and brought to a state of perfection in old age.

By reference to the book entitled "The Uncivilized Races of Men," we find it was the custom of Africans to put those to death who had reached about the age of fifty; and the wild men of Australia, after the period of usefulness had passed, put each other to death by means of the

boomerang, by throwing themselves in front of loaded vehicles, and other such methods, and as Dr. Angell, of Ann Arbor, Michigan, has truthfully remarked, civilization among those people has not advanced at a very rapid rate.

I merely make these few references to support our contentions that the useful period of man's existence has not passed at the age of forty, but on the contrary he is in the prime of life and vigor, mentally, and the experience of the previous fifteen years, which have been mainly years of training and which the Doctor designates as the "Golden Period" are but the preparatory stage for future usefulness, but no doubt some men wear out in early life by reason of the violation of the laws of health in one way or another.

SYPHILIS.*

BY J. M. MORRIS, M. D.

THE only apology I can offer for presenting so ancient a subject as this is that we, in our anxiety and rush to learn and do things, are liable to forget the older ones, which may be of equal, or even greater, importance than the new ones. I therefore turn us back to syphilis, which, perhaps, has not been discussed by this Society for quite a long time. Syphilis is one of the most ancient diseases known to mankind, no man knowing the time, place, or circumstance of its origin. It has probably existed from time immemorial, wherever sexual intercourse has been promiscuously practiced, though the statement is often made that it was first brought to Europe by the followers of Columbus. Mention of it occurs, however, in the ancient literature of China, long before the time of Columbus, at which time places called "stews" existed in the Borough of Southwark, England, where prostitutes suffering with the disease were confined for treatment, thus placing its origin beyond our time of reckoning.

Syphilis is a contagious inoculable disease, transmissable by heredity. The first lesion of acquired syphilis is a chancre; this is followed by lymphatic enlargement, by eruptions of the skin, usually superficial and symmetrical, and associated with similar lesions of the mucous membranes. Later by chronic inflammations and infiltration of the cellulo-vascular tissue, the bones, periosteum, and finally by small tumors called gummata, which may appear in any portion of the body, most commonly in the connective tissues. Syphilis is most certainly due to the presence in the system of a specific microbe. A number of bacteriologists have announced their discovery of this microbe, but convincing proof of the direct relationship between the micro-organisms described and the syphilitic lesion with which they were found asso-

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ciated is still wanting. The clinical evidences as to the microbic nature of the disease is, however, very conclusive. A person who has had an attack of syphilis is immune against a second attack, positively during the primary and secondary stages of the disease, possibly for many years, or during the entire remainder of his life. It is true that some cases of the infection are reported, but they are rare, and many of these reported cases are in reality cases of relapsing chancre, in reality a tertiary lesion of syphilis.

There are three conditions under which it is impossible to inoculate with the syphilitic virus. *First*—Upon a person who has already suffered from the acquired form. *Second*—Upon a person who has inherited syphilis from one or both parents. *Third*—Upon a mother who has borne a syphilitic child without showing in her own person any other lesions of acquired syphilis. The blood of a syphilitic during the secondary period, and the secretion from a chancre or any of the secondary lesions, are contagious. The normal secretions of the body, saliva, sweat, or milk, will not in themselves convey the contagion unless they have mixed with them a discharge from some of the inflammatory lesions. After the primary and secondary stages of the disease have passed, both the blood and discharge from lesions are innocuous so far as the conveyance of syphilis is concerned. This condition of syphilis is usually reached at the end of eighteen to thirty-six months, depending somewhat upon the persistency of the treatment and physical condition of the patient; after three years contagion is almost certainly unknown. Syphilis has been aptly compared to eruptive fevers, such as small-pox, scarlet fever, and others. Like these, it is communicated from a diseased to a healthy person, and the smallest portion of the virus can affect the entire body. It differs from those diseases, however, in the slowness of its course, the comparative mildness of its constitutional symptoms, and particularly in the fact that it is contagious but not infectious, according to the strict meaning of the terms "contagion" and "infection." And just here I would like to say there are many sources of contagion other than direct contact, such as the smoking of another's pipe, using the same vessel for drinking, or even using the same razor for shaving. One of the worst cases of syphilis I have ever seen was contracted by a man smoking the pipe of a friend. A chancre developed on the lip, and the man allowed it to remain for several months before he sought medical treatment, and such ravages had the disease made that he lost sight of both eyes and otherwise became a complete wreck.

I now have under treatment a young married woman who, after having been married about two months, noticed a small abrasion on one nipple. She thought nothing of the matter for several weeks, when all at once she noticed the eruption appearing all over the body, and thinking she had chicken-pox, she came to me for advice. I put her on

specific treatment, and in thirty days she was so much improved that she thought herself well, the eruption having faded and the nipple had entirely healed. I want to say in this connection that I had treated the husband for about three years previous to the marriage, and for more than a year before I ceased treatment, I had seen no evidence of the disease, neither had he, yet I feel certain at this time that he infected his wife. I would say with reference to the diagnosis of syphilis that the presence of the indurated sore is one of the most valued diagnostic conditions, and yet it is not pathognomic, for there may be in rare instances a chancre without induration, while, on the other hand, there may be an indurated sore, caused from treatment or otherwise, which is not syphilitic; therefore we should always exercise great care in giving an opinion relative to a primary sore, and reserve a positive expression until such time as other symptoms may be present or absent, to justify a positive opinion; for there are many occasions on which we are called for an opinion in these cases where the future happiness of a man or woman, or even an entire family, depends. I purposely omit from this paper both constitutional syphilis and syphilis of the nervous system, either one of which would furnish material sufficient for a lengthy paper; but I desire to call your attention, gentlemen, to syphilic heredity especially.

Syphilis is transmitted, not as a tendency or predisposition, but as an active contagious disease. It may reach the child in either one of four ways—by descent from the father, by descent from the mother, by descent from both parents, or by direct infection. Descent from the father is far more frequent than from the mother, and here I desire to note a singular fact, namely, that the semen itself, coming in contact with a healthy surface, will not produce a chancre, yet when fertilizing the ovum it conveys with it the syphilitic infection. Thus, when the mother is infected at the moment of conception, the case becomes in reality an example of paternal heredity, since the germ is syphilitic, not because the ovum of the mother is infected, but because of the diseased spermatoza of the father.

It is universally conceded that hereditary syphilis becomes milder in type and less likely to be transmitted in proportion to the age of the disease of the parents, being most potent and virulent during the first year of the disease, there being a rapid attenuation in the third year. In the large majority of cases there comes a time when syphilis ceases to become transmissible, yet there are cases on record where the disease has been transmitted after all symptoms of the disease have subsided. This leads us to a consideration as to whether or not a syphilitic should ever marry. The prevalence of acquired syphilis, the frequency with which it is transmitted, the severity of its lesions, its crippling, deforming, and often fatal effects when it is inherited, makes questions pertaining to the marriage of syphilitics of cardinal importance. This question is often

asked of us as physicians: "Can I get married and have healthy children?"

Syphilis possesses two fundamental characteristics which give a special interest to this inquiry—contagiousness and susceptibility to hereditary transmission, both of which emphasize its important relation with marriage. The hereditary influence of most diseases is manifest in the transmission to the offspring of a constitutional protoplasmic state, characterized by a feeble organization and diminished capacity of resistance to the ravages of the disease, while in syphilis there would appear to be a direct transmission of syphilitic qualities, primarily embraced in the sperm or germ cell, with the result that the normal processes of nutrition are vitiated, and the product of conception in its development are destroyed. It is this pernicious effect of syphilis on the offspring which gives to this disease an especial importance as a factor in the degeneration and depopulation of the race.

To the above question as to whether or not the syphilitic should ever marry, I think we should answer in the affirmative—conditionally, however, those conditions depending upon the fact as to whether or not the patient has been kept under strict observation of the physician a sufficient length of time to determine beyond question that there will be no further manifestations of the disease. I know it is true that some physicians do not believe in the curability of syphilis. They hold to the dogma that a man once syphilitic is always syphilitic, and with an inflexible logic conclude that a syphilitic man should never marry, but this conclusion is based upon false premises. It is not a question whether a man apparently cured of the disease may not have at some time in the future a subsequent outbreak of the disease, but the question should be whether or not such outbreak or recurrence carry any pathological risk to his wife or offspring. In our opinion, such recurrences of symptoms may occur, and yet carry with it no danger to the mother or child. In such cases I think we should always give our approval of marriage, because the facts of our observation show us that many men who have had undoubted syphilis marry and never communicate the disease to their wives, and rear a family of healthy children. In deciding this question, therefore, the physician should always appreciate the responsibility reposed upon him in thus being constituted an arbiter, so to speak, of so many destinies. In pronouncing upon a man's fitness for marriage, he should consider it chiefly as a sanitary proposition in which the danger of infection to others is the chief consideration of his decision.

As to the treatment of syphilis, I shall say little, but hope the Society will discuss this important part of the subject freely. I should like to say first as to the eradication of the disease that, if the total abolition of prostitution could be accomplished, and if it could be followed by the conversion of the army of harlots into peaceful house-

keepers or sisters of charity, and the transformation of their partners in crime into pure, law-abiding citizens and fathers of families, it would be a most satisfactory consummation of this end; but we will not yet hope for this happy condition. As to the active treatment of syphilis, I should say that two drugs—mercury and iodide of potassium—form the actual basis. They may be justly regarded as specifics, since they cause to disappear the organic lesions as well as the functional disorders created by the syphilitic virus. So pronounced are they in their effects that there is perhaps no other disease that a physician undertakes to treat with the same confidence in his ability to accomplish certain definite results.

DISCUSSION.

DR. LEAVELL: Of course this opens a wide field for discussion. The paper seems to have limited itself to hereditary syphilis, and it is along that line that I want to say something. It is often exceedingly hard to make a diagnosis of hereditary syphilis. Some of the lesions do not develop until quite late, and I believe it is Morrow who states that hereditary lesions may be kept away for twelve or fourteen years. If this be true, it certainly is very difficult to tell in this class of cases as to whether the children are healthy at birth or not. I think specialists doing eye, nose, and throat work have a good opportunity to see lesions, such as interstial keratitis, which occur in infancy, and are nearly always syphilitic. If these conditions arise before five years it can be safely said that they are syphilitic.

Dr. Hugh T. Patrick, of Chicago, two or three years ago, wrote a paper on diagnosis of syphilis that was very interesting, and brought out many points about the late development of the disease, particularly in connection with the nervous system, that were extremely interesting. I have seen some of these conditions develop as late as twenty years, and one case as late as twenty-five years, after the primary lesion. I remember to have seen a case not more than a year ago of double vision, developing some twenty years after the primary lesion. Dr. Dabney probably recalls the case. I recall the case at this time not only to show the length of time that intervenes between the development of the tertiary lesions and the primary lesion, but also to emphasize the point of the large doses of iodides that this patient took. He started in with the classical dose of ten drops of the saturated solution three times a day, and increased one drop a day until the physiological effects of the iodide were manifested. This patient took for three weeks one hundred drops of the saturated solution four times a day. I told him to carry it up to one hundred drops, but he began to feel so much better, his eyes getting very much better, that he concluded to carry it on higher on his own responsibility. He gradually carried it to two hundred drops four times daily for three weeks. At the end of two months he had lost nearly forty pounds in weight. He was a man weighing, perhaps, at the beginning of the treatment, two hundred and ten pounds. This man has regained his weight, and is now a perfectly normal, healthy man.

The question often arises as to how long to keep up the treatment after the subsidence of the symptoms. It would seem that to cure the lesion ought to be sufficient; that it is not necessary to carry our patients any further than that, because in curing the lesion we certainly feel pretty well assured that the syphilitic virus or toxine is at an end so far as the manifestations are concerned.

DR. GRIFFITHS: I believe in the curability of syphilis, and I think the great trouble in the successful treatment of these cases is that it is hard to get the patient to continue the treatment long enough. They wander around and go from one doctor

to another. I believe if we can hold the patient and treat him for a year or year and a half that he can be cured. Of course, the iodides and mercury are the only remedies to be employed in the treatment.

DR. IRWIN: Dr. Morris' paper is comprehensive in so far as he treated of the disorder known as syphilis. I notice, however, that he did not forget to accuse the bacillus of having done something. What we have gained in knowledge by the bacillus of syphilis is not entirely clear to me. We cured syphilis before we found the bacillus, and have cured it since; the treatment is the same. This is one time, I think, that it is not fair to accuse the bacillus of so much mischief. I am reminded of the Irishman who was found with a kit of burglar-tools in his possession. They arrested him for being a burglar. The court wanted to employ a lawyer to defend him. He replied that he wanted no one to defend him, and that he would defend himself. It was proved that he had burglar-tools in his possession, and that he had run away from the policeman who arrested him, which was strong suspicion that he was a burglar. He was asked what he had to say for himself. "May it please yer Honor," said the Irishman, "I have this to say: Would ye accuse me of having committed a rape?" They say, no, of course not; we have accused you of attempting to commit burglary. He replied, "Ye might as well have accused me of committing rape, because I have the tools to do it with."

I believe that these patients should be kept under treatment for a longer time than Dr. Griffiths recommends. I keep them under treatment pretty thoroughly for three years. I have seen children born to those who have had syphilis, and I have seen that they were perfectly well and healthy; therefore, I believe that syphilis is a curable disease.

DR. FLEXNER: I enjoyed Dr. Morris' paper. It is a subject that is hard to get at. There are one or two points that I want to take exception to. The Doctor says that the blood of a patient with secondary syphilis is inoculable. I might call attention to the researches of Prof. Neisser, who discovered the gonococcus. He made extensive experiments with the blood of syphilitics, and only in a small percentage of the cases was he able to produce the symptoms of syphilis.

The objection of my friend on the left to the finding of the germ is rather far-fetched. It is just possible, of course, that following our experience with the other micro-organisms, we might improve upon our treatment of syphilis. Of course, the experience of the medical profession for over four hundred years shows that mercury for certain stages, and the iodides, are the remedies for the treatment of syphilis. Some authorities claim that the treatment ought to be maintained for four years before the patient can be considered free from the disease.

The work that is being done in Joseph's laboratory in Berlin is most interesting. Starting out with the knowledge that syphilis is transmitted from the father through the mother to the child, the statement is made that the germ of syphilis has been cultivated from the semen, and that the micro-organism differs in color and morphology from any other bacillus.

Further, the same micro-organism has been isolated from the secretions of syphilitics. The demonstration of syphilitic toxicity is capable of rendering us valuable service, since we might know when a man is well of it. Justin de Lisle claims to have discovered a micro-organism that produces a serum. It has been used in this city, and certainly the reports are suggestive that he is on the track of something that is worth something.

DR. SATTERWHITE: There are one or two points that I want to speak upon. I am much obliged to the Doctor for a paper of this character, and I wish we had more of them in our meetings. Several months ago I saw a child nine or ten years of age that had a very severe eye trouble, which I treated in the beginning. It gradually grew worse, and I called in Dr. Cheatham. As soon as he saw the child he pro-

nounced it hereditary syphilis. The upper incisor teeth were characteristic of those found in hereditary syphilis. The eye-sight of both eyes was in great jeopardy for many weeks, and under syphilitic treatment she got well. I have made it a rule in my life that when a man or womaa either comes to me with a chancre I try to explain to them carefully the consequences of the disease, and tell them the value it would be to them as well as the physician to know whether or not this was a constitution-sore or not. If no constitutional symptoms make their appearance in six months after the sore, we can safely say to our patient that he will not have syphilis. Therefore, I never give any constitutional treatment for a primary sore until the secondary symptoms manifest themselves, and I believe that the disease is just as easily combatted then as it is to give medicine at the beginning. I do not believe that any doctor is justified in giving his opinion to a man or woman where either of them have had constitutional syphilis that they can get married without any danger of further trouble. I would not take the responsibility of having the progeny of such people put upon the world.

DR. DABNEY: I have enjoyed Dr. Morris' paper. The field is an exceedingly broad one, and it is hart to select anything to talk about. A word or two in regard to hereditary syphilis. Some months ago at a medical meeting a large number of gentlemen were present, with a large experience in dealing with congenital syphilis, or, more particularly, hereditary syphilis in its early stages. I was very much struck by the very few cases observed by these gentlemen. They said that they had only seen four or five cases of the symptoms appearing in the first few weeks after birth, and it seemed to me that the lesson to be learned from that was that a great many cases of inherited syphilis did not manifest themselves in the early period of the child's life; that the symptoms, if they existed, were overlooked, but the child was the subject of this inherited taint. We see in my line cases that are undoubtedly syphilitic in character far more frequently than syphilis is seen in infancy.

A word in regard to the Hutchinson teeth. They have been referred to, and are a very valuable symptom when present. The absence of teeth of this character does not prove that the child is non-syphilitic. I had such a case in my office, of a young girl of fifteen to sixteen, from the country. She was led in by a sister. She had interstitial keratitis, but did not have the Hutchinson teeth. So much in regard to the inherited form as we specialists see it.

In regard to the length of time the treatment shold be kept up: I see cases that have not been treated at all, or perhaps only for a short time. These patients return presenting typical syphilitic lesions, and they respond to syphilitic treatment. I had a case in my office not long ago where the man wanted to be married. He gave me no history of any initial lesion. I am glad that he did not appeal to me to advise him upon that point. I sent him to a general practitioner. The question is how long this man should wait.

I think one point Dr. Satterwhite made is well taken. The physician should not give a man syphilitic treatment with an uncertain diagnosis. We see these cases frequently. When they tell me that they have had syphilis I want to know what doctor treated them, whether he waited for secondary symptoms, and how long treatment was kept up. It is a common mistake for the treatment to be begun before the diagnosis is thoroughly established, and therefore leaving it always in doubt.

The case of paralysis of the external rectus muscle of the eye that Dr. Leavell referred to turned out favorably. The lesion was situated in the central nervous system. We know that syphilis of the central nervous system is the most dangerous form and the least amenable to treatment.

DR. BARBOUR: I enjoyed Dr. Morris' paper and the discussion very much. I am more interested and more familiar with the hereditary form of syphilis. One of the points that has been brought out in the discussion is the significance of the Hut-

chinson's teeth. These are, of course, the secondary teeth, and are only of service in diagnosis in older children—after they are six years of age. There is another form of tooth that is distinctly syphilitic, much rarer than the tooth described by Hutchinson, and that is one in which the crown of the tooth seems to be smaller than the body of the tooth, as if you had put a purse-string suture around the body of the tooth and drawn it in, the tooth being shrunken on itself. It is a rare form which I have seen occasionally, but it is very diagnostic of syphilis.

I should like to call attention to one or two points in prognosis. In forming an idea of the severity of the infection, the character of the eruption is very important; for instance, a macular eruption would indicate a milder type than a papular or vesicular eruption, and these are milder and involve less destruction of the skin than pemphigus or ecthymous lesions. These indicate a very grave infection with syphilis, and several of these that I have had under observation have died in spite of the most active treatment.

Another prognostic point is the condition of the liver and the spleen. When these are markedly enlarged in young children it is an evidence that the syphilis is involving the secreting cells of the liver, that there is a diminution in the hepatic cells, and that there is going to be a diminution in the amount of bile secreted by the liver. There is also an involvment of the glandular structures of the stomach and the intestines, so that these children are able to work up only a certain per cent. of the food taken, and therefore soon die of inanition.

DR. W. H. WATHEN: I am sure that we all feel that we are much benefited by the very practical paper that Dr. Morris has given us upon a subject in which we are all interested, because this disease is found in the acquired form or in the so-called hereditary, or inherited, form by all of us—general practitioner, surgeon, and specialist. It is a subject we ought to consider carefully so as not to make mistakes in our treatment, and especially in our advice to people as to when they may indulge in sexual relations without transmitting the disease, or without causing the production of inherited syphilis. I am sure that syphilis can be so far eradicated from the system that it will not manifest itself in any form, though the patient may live to an old age. I am sure that syphilis may be so perfecfly cured that it cannot be transmitted from one person to another or transmitted in inheritance.

My attention has been more especially called to syphilis in my earliar teaching in obstetrics. I have considered the question very carefully as to the effects of syphilis upon pregnancy, and at what time syphilis is transmitted to the child, and I have been impressed with the belief that syphilis is transmitted readily to the impregnated ovum by a woman in the earlier years of the disease, but that the disease may be so eliminated from the system that the woman may afterward bear healthy children, and that they may live through a long life in perfect health. I have never belived that the man infects the ovum direct, though that seems to be the general teaching. My experience in my earlier work in obstetrics and since in my surgical work has led me to believe that the disease in the male is generally communicated to the child by the infection of the mother. I have visited in this city a number of times an infected child with inherited syphilis, supposed to direct through the father, with a healthy mother, when I personally knew from my relations with that family that the father had infected the mother and the mother had infected the child.

DR. E. S. ALLEN: The lesion of primary syphilis, or chancre, is classed among the conditions known as infectious granuloma. The bacteria, not a violent one, multiplies slowly and generates a toxine not so destructive to tissue cells as are the toxines of the pyogenic, or chancroidal, bacteria. So nature has time to pile up a great number of cells, local cells and white blood cells, to build up tissue which gives us a tubercle, or granuloma—a manifestation of nature's effort to protect the economy. The so-called soft chancre is a hard chancre infected with secondary bacteria,

which cause this tissue to disappear, so we have a destruction of nature's wall faster than she can repair. I think when we recognize the bacterial cause of syphilis, that is, to diagnose syphilis with the microscope, we can treat syphilis in the beginning, because the sooner put under treatment, the more rapidly nature can generate immunity, because by early treatment, before many bacteria are in the system, the mercury holds in check the toxine of the bacteria, and prevents the multiplication of bacteria and allows nature to generate immunity, and if we can assist nature early in the generation of this immunity we can avoid a great many of the secondary symptoms, and when once nature has immunized herself against the bacteria, it is not possible to transmit syphilis.

DR. ABELL: I wish to confine my remarks to the hereditary form of syphilis. It has been remarked that in all conceptions in syphilitic individuals, 30 per cent. miscarry or give birth to a still-born fœtus; that of the remaining 70 per cent. 25 per cent. die in the first few weeks of life, and the remainder may develop the disease later. As Dr. Barbour has stated in his discussion, the unfortunate thing in inherited syphilis is that we have the sequelæ developing that we have in the neglected variety; in the liver and spleen, everywhere, there is a production of connective tissue, the recurrence of the so-called third stage coincident with the second.

That syphilis is curable is borne out by the undoubted cases of second infection. Numerous cases are reported by the most competent men which bear out the statement that second infections do occur. As Dr. Wathen has said, we are all satisfied that syphilis can be eradicated so that it will not be transmitted through hereditary channels, but we are not satisfied in just what cases this will occur. In well treated cases 95 per cent. will never show any symptoms, but the remaining 5 per cent. always show symptoms later in life. Just which of the hundred cases are going to come in that 5 per cent. class it is hard to say. No matter how carefully you carry out the treatment you will not be able to tell any man that he may with safety or impunity marry, and that his wife and children will show no evidences of the disease.

I believe that mercury is the only drug that possesses any curative effects in the treatment of syphilis. The iodides will cause the lesion to disappear, but will not prevent recurrence. Mercury is the only drug that tends to cure it, and I prefer to keep the patients on mercury for two years; this can be followed by the iodides if you wish. Some authorities take the stand that these patients should be treated for four years. That they should have two years of active treatment with mercury, and that for one year there should be absolutely no evidences of the disease before they are permitted to marry. After giving them a thorough course of treatment they may marry, and there may be no lesions in the children, and the majority of cases show no infection in the wife, but we cannot positively say that this will be true in any one particular case.

DR. DABNEY: Is it not the opinion of syphilographers that the disease cannot be communicated after three years?

DR. ABELL: Not absolutely. The germ seems to run its life course in that time, after which it loses its infectiousness, but this is not absolute.

DR. LEAVELL: I would like to ask one question. Are syphilitics more susceptible to the iodides and mercury than other individuals?

DR. BAILEY: I would like to say that I believe there is a chancre and a chancroid, and I do not like to treat a man for syphilis who does not have it. I have seen men who have been perfectly miserable from having a sore in which there was never any syphilitic lesions following, and yet the men had syphiliphobia for years. Everything that he suffered from afterward came from the sore that he had had some twenty or thirty years before. I believe that if we know that a man has syphilis we cannot begin treatment too soon, yet we should know that he has syphilis.

I believe with Dr. Abell that mercury is much more curable than the iodide of potash. I believe that we can get better results from the combined treatment than

from either one alone. It is a misfortune sometimes that the manifestations disappear so readily under specific treatment, because under that circumstance the man doubts whether he has syphilis, and regards further treatment unnecessary.

As to the last question, I am in a little doubt, but it does seem to me that the man who is the subject of syphilis is a little more tolerant of the iodide of potash than the man who has not had syphilis.

DR. BRUNER: I thank you for the courtesy extended to me to discuss this most interesting paper. I hardly feel like taking up any of your time; however, I would like to say a few words bearing on the curability of syphilis by reporting a case recently treated for interstitial keratitis. This man was forty-five years of age, and gave a history of having had a chancre twenty years previously. He stated that his doctor pronounced him cured. He had had no symptoms since then, and had had no opportunity for reinfection. Three months previous to the time I saw him he developed this interstitial keratitis, and when I saw him he had a deep ulceration of the cornea, and his vision was greatly interfered with. He could not see how to get around. The case improved very nicely under syphilitic treatment, and he has returned to his business. If this man had no opportunity to become infected, it would seem in this case that syphilis was not cured, having been in the system for twenty years.

DR. MORRIS (*closing*): I have nothing further to say except to thank you gentlemen for the liberal discussion of my paper. It was what I had in mind when I wrote this short paper. I would bring a subject before the society that would bring out discussion.

CYSTITIS.*

BY S. SCOTT PRATHER, M. D.

WHILE there has been a great deal written on this subject at different times by most of our best authorities, still I feel we can never know too much about inflammation of the bladder, because the geueral practitiouer is so often called upon to treat cystitis as a sequelæ of some disease.

We divide this condition into acute and chronic forms. Acute may be caused in several different ways; for instance the use of a sound roughly or one that is unclean; the presence of a foreign body, such as a calculus; various kinds of infectious, as gonococci, pyogenic staphylococci, tubercular bacilli or from epithelioma; sometimes from drugs, as tinct. chloride of iron, cantharides, etc.

In mild cases the vesical mucous membrane is congested, thickened and swollen, the epithelium detached in places, leaving raw surfaces. In severer forms the bladder is lined with tough tenacious lymph, there may be ulceration and occasional sloughing. The sub-mucus connective tissue and sometimes the entire wall of the bladder are infiltrated with pus. In the membranous variety we have large fragments or even casts of the interior of bladder thrown off by way of the urethra. If acute cystitis is not properly treated and lasts sometime it is liable to cause pyelitis and then pyelonephritis, which often proves fatal.

* Read before the Louisville Medical and Surgical Society, February 20, 1905

Usually the first symptom is increased desire to urinate, which often becomes so acute there is a constant dripping without any relief whatever being experienced. Often the tenesmus is so great that the bowels are involuntarily evacuated and hemorrhoids develop as a complication. Pain, especially in neck of bladder, may also be in hypogastrium, perineum, or even to the loins or down the thighs; urine becomes turbid, with a heavy deposit of mucus, thin, scanty, then blood tinged; often after urination there will be several drops of blood, sometimes there is considerable fever. Mann has called attention to the fact that a cystitis is often kept up by an attack of severe urethritis; in such cases the orifices of the ureters will be noticed to be prominent and excoriated.

Chronic, often called catarrh of the bladder, embraces all those causes as chronicled for the acute, although we do not of necessity have the acute before the chronic. The latter is more liable to result from a combination of mechanical and chemical causes, such as stricture, stone, enlarged prostrate, new growths, or retained urine due to a paralysis of the bladder.

The mucous membrane is thick, blue-gray in color and very tough; there is a congestion of the mucous coat; muco-pus and visid mucus are formed in large quantities and in the muscular walls of the bladder, which often becomes half inch thick. Should an instrument not sterile be used, an inflammation is caused, which is often incurable.

There may be atony or atrophy in the walls of the bladder with thinning of the mucous membrane, fatty degeneration of the muscular fibres and considerable distention of bladder; or may be followed by hypertrophy of the muscular coat, the fibres forming ridges or fasciculi standing out in the interior of the bladder and separated by lozenge-shaped spaces. The bladder itself is contracted so that its cavity can contain but a very small amount of fluid. Sometimes between these fasciculi pouches of mucus membrane protude forming sacculi, which communicate with the interior of the bladder by very narrow mouths and sometimes they contain calculi. In microscopical examinations we find triple phosphate crystals present when the ammonia is set free by the decomposition of the urea. If such crystals are found in freshly passed urine it indicates chronic cystitis, yet may be due to overwork of the nervous system and to general debility.

The symptoms of chronic cystitis are very similar to acute yet not so pronounced. The urine is not apt to contain blood but is loaded with thick tenacious mucous. DaCosta says that where there is pain in the bladder, which becomes more severe by attempted act of micturition, and tenesmus, with darting pains into urethra, there is apt to be cystitis, yet cystitis may be present without the manifestation of pain. As to the treatment, remove the cause if possible. This, then must be our first consideration. If due to a drug, discontinue its use; if a foreign body, as a calculus or a new growth is to blame, we must remove it first, and

then treat the cystitis that has resulted; and so on. When the condition we have to deal with is acute, leave the bladder alone, don't irrigate. If a sound has been roughly used, put patient to bed on a diet, give opiates to relieve pain and tenesmus, and some alkaline diuretic. When the case is one of microbic infection, it is much more serious and obstinate, the treatment depending upon the severity or the attack. Rest in bed with hips elevated; exclusive milk diet; move bowels with salines and enemeta; opium and belladonna in suppositories or morphia hypodermatically; plenty of water, teas, etc. Various diuretics may be tried. I have had very good success with tritica, a non-alcoholic preparation of Triticum Repens, given in teaspoonful doses in hot water every three or four hours.

Have also used—

℞ Potass. Acet., ...℥ijss.
Potass. Bicarb., ...℥iss.
Tr. Hyoscyami, ...℥v.
Mft. Sol. Inf. Buchu fresh, q. s. a. d. ℥viij.
Sig. Tablespoonful every four hours in glass of water.

—with most gratifying results. Hughes recommends fl. ext. cannabis indica, ℥ss, every three or four hours for the vesical tenesmus. Yet with all our care and treatment the condition may pass into the chronic form, which is much more obstinate.

in chronic cystitis it is advisable to give 10 ♏. oil santal wood with 5 grs. salol four times a day. Irrigate bladder with hot distilled water, followed by two or three ounces of nitrate of silver solution, the strength of which may vary from 1-10000 to 1-500, then follow this with normal salt solution. Solutions of argyrol, bi-chloride mercury, carbolic acid and such are often employed with good results. Internally urotropin, salol, cystogen, benzoic acid, etc., may also be of marked service. In case the cystitis refuses to yield to this treatment, the health is failing, the frequent micturition and painful tenesmus are prominent symptoms, a pereneal cystotomy followed by permanent drainage, will usually give decided relief and sometimes result in complete cure. Summarizing the treatment I might add the following:

Acute.—No irrigation; soothing drinks; antiseptics; sedatives (morphia, etc.); hot applications to pubes; rest in bed.

Chronic—Irrigation; stimulation; antiseptics; moderate exercise.

DISCUSSION.

DR. ABELL: I believe we should differentiate in speaking of cystitis between irritation of the bladder and infection of the bladder; in the latter we have to deal with microbic invasion. The essayist has outlined pretty thoroughly the predisposing conditions to infection in the shape of foreign bodies, tumors and obstruction to the urinary outflow. One thing of interest to me is how the infection occurs in many instances and this is particularly true in the female. If we consider the source of the infection we have to deal with those from the urethra, for example an infection that

may be caused from the use of an unclean sound, and those from the kidney, from a pyelitis, where the germs are carried from above down, and lastly I am convinced that cases frequently occur in which we may have direct infection from some inflammatory lesion. It has been demonstrated that the germs may pass directly through the bowel into the bladder; ordinarily with a healthy mucous membrane the bladder may resist the germs.

As to the treatment, the essayist has outlined that in acute cases rest in bed, a milk diet, and some diuretic mixture is often all that is necessary. Sometimes irrigation is indicated and finally in those cases in which the bladder cannot be kept clean to resort to cystotomy. The danger of pyelitis and nephritis is not an imaginary one. I would like to show a specimen; in this patient the source of infection was from the bladder. The attack came on suddenly; she had a left-sided pyelitis, the temperature running high; this subsided under the ordinary urinary antiseptics. Shortly after her temperature had become normal there occurred a right-sided infection from the bladder. Instead of this subsiding under the ordinary remedies as it did on the left side it continued and the temperature reached 104-5, and she had chills and sweats with marked prostration. She was extremely tender in the region of the kidney and we advised an exploratory operation and the kidney was removed and found to be full of multiple abscesses. The subsequent history of the case is that the temperature subsided, pulse became normal and the patient is now able to sit up.

DR. GOSSETT: There is another route through which the mico-organisms may reach the bladder that Dr. Abell did not mention and that is through the lymphatics. Another frequent cause is where a posterior urethritis extends into the bladder causing an inflammation of that organ. I notice that the *Medical Record* in speaking of cystitis reports a case without symptoms; the urine was pale with a specific gravity of 1,018, with much albumen, some leucocytes with epithelial and granular casts. In cystitis in women where they complain of painful micturition and a bearing down feeling at the time of micturition, the condition can often be relieved by diluting the urethra. I know in one case of mine the woman complained of bearing down pains after urinating and a dilatation of the urethra relieved the trouble at once.

I remember a case in which Dr. Abell and I made a cystoscopic examination of the bladder and our diagnosis was a tubercular condition of the bladder; the patient could not hold more than an ounce of urine in the bladder at a time. Our prognosis was grave; we did not think that the women could live very long. I gave her a prescription of bicarbonate of potass., solol, tr. hyoscayami and a saw palmetto preparation. She took this for a short time and all symptoms disappeared.

I saw her about two years afterwards and she said that at times she would have trouble with her bladder, but after taking the medicine for several weeks all symptoms would disappear.

I have a patient now that has bothered me a little. He had gonorrhœa about two months ago and he has had associated with this condition an epidydimitis; another physician had this patient under his care for two months. I would like to ask some of the surgeons who make these cases a special line of work how long after this inflammation of the epidydimitis disappears before we use a sound or before we irrigate? It is my opinion we should wait two or three weeks or a month. The case shows shreds in the urine and this after two weeks treatment. This condition has been relieved very much but he is bothered a little with cystitis. Some of the authorities claim that we should wait two or three weeks or a month before we begin irrigation or begin the use of the cound.

DR. DAVIDSON: I wish to compliment the doctor for his able paper. I would mention that in the majority of cases the urine is acid in reaction and that the colon bacillus has been found in the majority of cases.

I would like to mention the fact that the cystoscope is of great importance in the

examination of the bladder and also in applying the treatment. In localized ulcer of the bladder by means of the cystoscope we can make local applications to the ulcer of silver nitrate solution or any preparation we wish. I get better results from this application than from irrigation. Irrigation in chronic cystitis is the ideal treatment. A solution of argyrol is a very good solution to use. It is one of the latest silver salts and one of the best.

I remember that I read a paper several years ago before this Society on chronic cystitis in the female. At that time I reported a case that had been repeatedly irrigated with permanganate of potash solution, argyrol, boric acid and nearly every medicinal agent had been used. I happened to use a solution of glyco-thymoline and the patient got well. This was a case of chronic cystitis that had existed for several years and since that time the woman has had no trouble at all. I just mention this as a new agent in the treatment of chronic cystitis.

DR. JNO. R. WATHEN: I have little to add. The subject of cystitis seems to be quite a popular one. I read a paper on that subject before this Society. Dr. Hibbitt, Dr. Davidson, and a number of others also have read papers on cystitis; we have had about five papers and I believe the last one has covered the ground even better than the others.

I might add one thing, and that is that we should be more careful to make a diagnosis of these cases. I have exhibited to this Society a vesical calculus around a hair-pin as the cause of a cystitis. We ought in every case to make a careful examination. I admit that when the bladder is full of pus it is hardly in a condition to make a careful examination. Even if the bladder is clean and the mucous membrane is covered with blood it is hard to arrive at a diagnosis. It is difficult to tell whether the bladder alone or one or both kidneys are involved. In cases like that we may have a kidney involvment as Dr. Abell has brought out.

This evening I brought along a copy of the *Journal of Urology*. In this is a description of a new instrument for the separation in the bladder of the urine from the two ureters. I believe that Harris' was the first separator to come before the profession, then Luys' separator, and then that of Cathlin's. If you notice these cuts you see a thin rubber partition which divides the bladder and separates the urine from the two ureters. You could give to the patient such drugs as carmine and methylene blue and this instrument would be of great value in testing the urine from the two sides and positive conclusions could be drawn as to where the trouble was. The Luys' instrument was exhibited by Dr. Rodman at the Clinical Society a short time ago. Any one can use this instrument, no anæsthesia is necessary and it is certainly an improvement over the catheterization methods.

DR. SPEIDEL: I thank the essayist for his paper. I would mention especially that in females in chronic cystitis it is necessary to make a diagnosis because it is a condition that is often secondary to diseases of adjacent organs, as prolapse and displacements of the uterus. In many cases you will find that it is caused by a small urethral carbuncle which can be diagnosed only by examination.

In the treatment of acute cystitis I never resort to morphine, because morphine disturbs the digestive tract and produces constipation; furthermore, it decreases the amount of urine and the concentration of the urine is increased. You will find that the pain can be relieved by the coal tar products as acetanelid and phenacetine; if they are used with hot water relief can be obtained very readily. Analgesics should be given in oft repeated doses of five grains until the proper effect is obtained.

In most of the cases of acute cystitis the urine is acid and this can readily be relieved by bicarbonate of soda in hot water, a teaspoonful hourly until the urine becomes alkaline, and then repeated at longer intervals to keep the urine alkaline. The patient can be supplied with a small amount of blue litmus paper and can be taught to test the urine.

DR. MEDDIS: The essayist has thoroughly covered the subject. One cause I do not think he mentioned that is cystitis in . . . . . where there is decomposition of the urine. I saw one case in the clinic in London. In the treatment of that case a weak solution of nitric acid was used and followed by a solution of nitrate of silver. In answer to Dr. Gossett's question as to whether a sound should be passed or irrigation practiced in cystitis, I think that should be governed by the case; it might be two weeks or a longer time. Might use a soft catheter.

I do not think much of the separators. I have never used the separators and have never seen them used. You cannot be positive with the separator. I think the only proper method to separate the urine from the two kidneys is to catheterize the ureters because you may have in some cases a double ureter and get the urines mixed after all.

DR. PRATHER (*Closing*): I just want to answer one thing that Dr. Speidel said and that is, that it was not necessary to use opiates. I know of one case where fifteen grains of antipyrine was given and repeated until three doses were given, without relief. The only thing that would relieve the pain was opium.

DR. MOREN: I want to say that the little child I reported as having hemiplegia a few meetings ago died. The other child developed broncho-pneumonia and has recovered and is now well. That was evidently not anterior poliomyelitis but only a digestive disorder.

CÆSARIAN SECTION FOR MYOMA-UTERI OBSTRUCTING THE ENTIRE PELVIC OUTLET.*

BY FOUCHE WARREN SAMUEL, A. M., M. D.

Professor of Surgery and Clinical Surgery Kentucky School of Medicine; Surgeon to City Hospital.

SINCE our knowledge of the clinical consequences of myoma of the uterus has been amplified and our conceptions cleared as to its innocence, treatment has by surgical intervention become the rule to which there are few exceptions. A demand for immediate surgical treatment becomes the rule in cases in which the physician is confronted with a gravid uterus complicated by a myoma, and constitutes the *raison d'etre* for reporting the following case, and from its position and size must be regarded at least as an uncommon complication. A cursorary review of this subject with the indications and limitations as to treatment will, I hope, afford a basis for your kind consideration this evening.

CASE.—Mrs. K., thirty years old. Married a number of years, good family history, personal history negative—never been pregnant—menstruation had always been normal, began at the age of thirteen years. I was called to see her by Dr. S., of Owen County, in the summer of 1904, for the purpose of making a diagnosis of an abdominal tumor and the advisability of removing same. The following history was given: About eight months before I saw her, she missed for the first time in her life her menses. Nothing was thought of this except that she was pregnant, which if true she rejoiced; and about the usual time (three or four weeks) she began to have naseau which strenghtened the belief in preg-

*Read before Louisville Clinical Society, March 21, 1905.

nancy. About the end of two months she began to have such severe pains in lower abdomen that she was forced to call in her physician who diagnosed pregnancy with a threatened abortion; he however treated the case expectantly giving opium freely to control pains; these were severe as to demand daily attention. About the beginning of the fifth month she had quite a free hemorrhage the pains continuing in more or less severity all the time. No history of quickening could ever be obtained after the first hemorrhage, seven occurred in all, until I saw the case. About two months before I saw her, however, Dr. Stallard took charge and saw her in the last four hemorrhagic attacks. Upon examination he states that he found a tumor in vagina extending into abdomen and that the tumor so filled the pelvis as to make it very difficult to reach the osuteri which was pushed up to the right and anterior to tumor, from the constant pains and number of hemorrhages, and failure to abort in early months, he began to suspect that they were mistaken as to the diagnosis of pregnancy. Upon interrogating her physician and the family I obtained a history that there was no growth in the pelvis prior to the three months, that was discovered, and it was therefore concluded by us that if so it was exceedingly small; however, upon a review of the primary symptoms or those in the early stage of the gravid uterus such as absence of menses and nausea, with vague abdominal movements elicited by me, I felt confident that she was pregnant. Upon examination I found a tumor situated in and blocking the bony pelvis, it being impossible only by great force to touch the neck of the uterus; there being just space enough between the tumor and pelvis walls to allow my finger to be in insinuated. With my hand upon the abdomen held in one position over the abdominal tumor with firm pressure, I was assured that the abdominal mass became soft and hard intermittently. I felt that this was the rythmical contraction from the uterus and confirmed the diagnosis with me, and I had to deal with a pregnancy, complicated with a fibroid located in lower uterine segment which was entra-ligamentary in character. Inspection of vagina showed a slight sanious discharge, otherwise normal. In estimating the time of pregnancy we concluded as near as possible that she was eight months and a few days pregnant; the inevitable death to fœtus and the mechanical difficulty here being insurmountable, as far as mother was concerned. We decided on an immediate Cæserian section (election) which was done at her home, a plain country farm house. However I was blessed with perfect assistance which was exemplified by easy recovery of mother and the delivery of a living child (female) which attained four months of age. The operation done was a perro-Cæsarian amputation. A brief description of the condition, found upon opening the abdomen, may be of interest to you: A long incision extending from about 1½ inches above the umbilicus to the symphisis pubis was made, the abdominal wall being quite thin; the uterus presented. A hasty examination found that a tumor ex-

isted, located entirely in the pelvis, impacted, its attachment to the uterus being below the intermediary zone. A straight incision was made in the uterus after a tonnignet had been placed around the neck and between suclus of tumor and uterus the child was grasped by neck and the uterus torn for an inch in extraction, the presentation being or would have been a breech. The uterus contracted promptly and the small hemorrhage following incision immediately ceased. Reintroducing my hand I grasped the placenta near fundus and by a rotary movement was extremely easy of delivery. I then examined tumor and found by rotating one-half the axis of a circle I could lift it out of the pelvis, the lowest part of tumor being on a level with the internal os about. After tying of ligaments containing ovarion artery, forceps were then placed upon tissue including uterine artery, the entire mass cut away after a flap had been made to avoid injury to the bladder. On account of the development of the blood supply for physiological reasons here at this time the broad ligaments with their contained plexuses of blood vessels presented a most formidable appearance. Some little difficulty was experienced in the uterine stump on account of the exaggerated development of blood vessels. Otherwise the operation was without incident, and to the experienced operator must be regarded as quite easy in comparison to many other pelvic lesions.

Fibroid tumors of the uterus co-existing with pregnancy when situated below the intermediary zone and rapidly enlarging presents a condition to the obstetrician and surgeon of great importance. The radical views of the profession is well illustrated in numerous reported cases of gravid fibroid uteri that have been removed before first six months of pregnancy has been completed. In such cases it happens as in this case that the co-existence of a tumor is discovered for the first time during the pregnancy, for it is usually the case that a small tumor whenever located begins to rapidly enlarge with the advent of pregnancy and increases oftimes very rapidly as gestation advances. In other cases rapid enlargement may not be noted until two or three pregnancies.

The attitude of the surgeon and obstetrician toward the pregnant myomatous uterus must be governed by the site of the growth. However in all cases his duty is to observe with armed expectancy for it is well recognized that myomata most favorably located in a pregnant uterus may at any time and especially at or after the termination of labor take on the most undesirable changes and complicate the puerperium with a fatal termination, while one so low down in lower uterine segment may so choke the bone outlet as to make it impossible for the passenger to be delivered, such a case need not under the circumstances demand immediate intervention, but can be carefully watched and nursed and operation done at the most seasonable time, that is when child is viable. The association of a fibroid tumor with a pregnancy must be regarded in many cases as malignancy, at all times must be looked upon as grave in

their complication of an otherwise normal gestation because of their tendency to certain changes that is to undergo degenerative changes, rapid necrosis, leading to a septic intoxication. However small the tumor or where located we can never tell what we may be confronted with during labor. From a lethal hemorrhage in one, sloughing and sepsis in another, or a completely choked pelvis in another, making delivery of the passenger per via naturales impossible. Statistical studies too numerous to quote here, except briefly show that myomatous woman are not fruitful—Williams estimates pregnancy in myomatous women 2.57. Kelly statistics gives 2.03. Frankel gives five per cent of these. Hofferner holds quite a different view claiming that myoma is no bar to pregnancy.

In order to properly study our subject we must approach this problem as to treatment from a prophylactic and curative point of view, more often than otherwise the clinical existence of a large fibroid in a gravid uterus date from the occurrence of pregnancy, and treatment resolves itself on the one hand into careful observance with armed expectancy and on the other the symptoms may demand immediate intervention; while from its site we may well know that it offers an absolute mechanical barrier to the passenger, our treatment can still and should be at a time of election. Given a case of uterine myoma plus a pregnancy. What conditions obtain in its management. First we may find difficulty in making a diagnosis, a *sine qua non:* If we wish to avoid the distressing error of committing ourselves to the removal of a tumor during an unsuspected pregnancy. The diagnosis of a pregnancy in the presence of fibroid wherever its site may be difficult, for the local signs, uterine globulation—symmetrical growth with softening of uterine neck, may be absent. On the other hand a rapidly growing tumor in a woman possible of impregnation should always be viewed suspiciously in presence of general symptoms of pregnancy. In a pregnant fibroid uterus, especially the submucus and interstitial variety, on account of increased vascularity, over growth and subsequent hemorrhage, interruption of the gestation is the rule, tumors in anterior wall have a tendency to displacement with pressure symptoms, and to incarceration of uterus in pelvis. This is equally true of interstitial and subperitoneal growths (intra pelvic) which by their pressure act offensively, creating a tendency to abortion in the early weeks of pregnancy. In tumors situated above the mid zone of uterus, not submucous, the tendency is, in the evolution and growth of tumor and uterus to liberate itself into abdomen and gestation may proceed to a favorable termination, but unfortunately in those located below mid zone and of an intra ligamentary variety the tendency is to displace the uterus upward and by its growth to choke the pelvis so that in many cases even the os uteri cannot be felt.

The danger attending abortion complicated by fibroids, is to increase the maternal mortality; when it is induced, the mortality is said to be

double, should gestation continue to term in fibroids located above the mid zone or very small pelvic growths. Hemorrhage is the chief difficulty to be reckoned with after labor—the complication occurring during the puerperium are delayed involution, sloughing and sepsis from traumatism of capsule of growth frequently caused by means adopted to remove an adherent or imprisoned placenta. Should she escape these dangers, there occurs not infrequently a marked regression of a tumor of alarming size seen during pregnancy to a utterly unsignificant affair. In cases when the tumor is in the body of the uterus or in the folds of the broad ligament within the bony pelvis it may at times give distressing pressure symptoms; under these circumstances we will not always be warranted in delaying intervention by operation, that is, by induced abortion or hysterectomy. If the first procedure is choosing we must await an elective period to operate, the later I believe is the operation of choice, the mere fact that a gravid uterus does contain a tumor does not in itself demand interference, immediately, the one cardinal exception to my mind is the co-existence of a placenta previa.

Before closing my remarks upon fibroid complicating pregnancy I wish to record my own view upon what has become a fashion of late and that is the common tendency of many of the profession in urging intervention in removing fibroid associated with pregnancy: Myomectomy, I regard such practice as vicious and meddlesome surgery for when located at or near fundus or in the body or above the intermediary zone they usually rise out of the pelvis as pregnancy advances and are rarely provocative of mechanical difficulties. Our position should then be one of expectancy, anticipating the dangers and abide their coming, and when we find that delivery is impossible we can elect a suitable time usually after the child is viable for operative intervention. In dealing with such complications as fibroids with pregnancy the following laws have been formulated and subscribed to by most surgeons:

"1. Slow growth of the tumor; location of the tumor where it will not materially interfere with uterogestation or obstruct delivery.

2. Probability that it will rise spontaneously, or that it may be forced manually out of the pelvis into the abdomen, where it will not interfere with pregnancy or parturition. The opposite of these conditions may call for surgical measures.

The following radical measures should be considered:

If the fœtus is not viable, abortion, and, later, myomectomy or hysterectomy.

If the child is viable, Cæsarean section or the removal of the uterus entire or supravaginal hysterectomy—*i. e.* Porro's operation.

Removal of the tumor without interrupting pregnancy or sacrificing the uterus." (This I doubt as wise.)

"If surgical interference is inevitable, and gestation has not advanced

beyond the end of the third month, the indication is for abortion. Interruption of gestation at this time, and a radical operation for the removal of the tumor later, would be the safest course. After the third month the danger of induced abortion is increased enormously. This increase comes from the difficulty of delivering the placenta, from the infection, and from hemorrhage. Cæserean section, to be followed immediately by complete hysterectomy, or supra-vaginal hysterectomy, may now, in the interest of the child, be deferred if possible, to the period of viability—that is, to the end of the seventh month or later. Removal of the tumor without sacrificing the uterus or interrupting gestation may be preferred when the tumor is subperitoneal and removable with small uterine traumatism. This operation is indicated specially in subperitoneal pedunculated tumors.

An infected myoma, especially if complicated with pregnancy, demands immediate radical measures, and if the uterus also is infected may call for not only myomectomy, but hysterectomy as well."

DISCUSSION.

Dr. Barbour: I cannot speak to the surgical aspects of the subject. I have unfortunately had one case which was operated on for me. In this case I was called in after a midwife had had charge of the case for some time. She had made traction on the cord, and had ruptured it, and, of course, the child was dead. The girl had been in labor twenty-four hours when I was called in. The antero-posterior diameter was some two inches and a half. Cæsarean section was done, but there had been so much infection of the uterine tissues that she subsequently died. This was in a girl under thirteen years of age.

Dr. Willmoth: I want to thank Dr. Samuel for the report of the case. It is a very interesting one. This belongs to a class of cases that for a number of years were allowed to die, and if there is any one thing that surgical asepsis or technique had relieved when perfect, it is this one operation of cæsarean section. In the complete Porro operation, as you know, for a number of years the mortality was nearly 100 per cent., while now it is agreed by all that the mortality of the operation, done in operable surroundings and in cases that have not been meddled with too much by midwives, that the chances of recovery are fairly good. I am glad that Dr. Samuel favors the complete operation. In looking over the literature I notice that some differ from him and advise conservative operations in those who have contracted pelvis demanding opening of the abdomen to relieve them of a child. I am glad, while the essayist did not touch on contracted pelvis, that he advises the complete operation, because I do not see why the surgeon should do a conservative operation, and subject the woman to a second operation that might cost her her life.

Dr. Marshall: I am glad to have heard this report. To a great extent I agree with what Dr. Willmoth has said, and I think the complete operation is the one that should be done in cases where there is an obstruction to the passage of the fœtus, and I think that the operation of cesarean section is one that should be in the mind of obstetricians generally where they are doing any amount of work. I think that the crushing operations should be dismissed from obstetrical work. Fortunately, I have never been called upon to be a party to a crushing operation, and I cannot right now conceive of a condition where it would be necessary, if it were possible, to have a competent operator. I do not believe that the crushing operation should be considered. I believe that, given a proper method and a proper technique, the danger to the

woman is not as great in cesarean section as it would be in the crushing operation as ordinarily performed, and, if the obstruction was so great that the woman could not be delivered through the pelvis, I should advise the cesarean section.

DR. CHEATHAM: I heard Dr. Frank report two cases the other night that he had operated on in one week.

DR. IRWIN: I am interested in the report. I am more interested in the results of the operation. Of course, the operation was done to save the life of the mother and, if possible, the life of the child, and, if the child lived four months, it shows that the operation was a success, and nothing could have done any better. The essayist furnished ample proof that the operation was a wise one in first removing the child and then the diseased uterus.

In the course of my professional life I have met with a number of cases of tumor of the uterus complicating pregnancy, but, fortunately, I have not met with one in which an operation was necessary. I have not seen a case just like this one. Sometimes I have delivered the tumor before the child, and sometimes after, when the tumor was within the uterus. Within the last four years I have seen four tumors complicating pregnancy, and fortunately they were all extrauterine and growing from the surface of the uterus mainly and about the broad ligaments. Two years ago I saw a tumor in the region of the left broad ligament. It invaded the womb tissue on one side, and I found great difficulty in delivering the child, but was able to deliver it, and the child is living to-day and so is the mother. A fact is that the tumor is now so small that nothing hardly is left.

Shortly after that time I saw a lady *enceinte*, and a tumor was discovered about the size of a large orange. A specialist had been consulted, and gave an opinion that unless the tumor was removed it would be a great menace to life, and that he could remove the tumor without any danger of causing an abortion. Not content with this advice, I saw the patient and advised that the tumor be not disturbed, especially as it was external to the uterus. Pregnancy went on to full term, and I found that the uterus was pushed to one side, and the tumor was quite large; I cannot say exactly how large, but about half the size of that half-gallon bottle. Dr. Boyd administered chloroform, and I removed the child at full term with forceps. There was some hemorrhage, not very considerable, and the patient went on to a good recovery. The tumor was also shriveled up so that it is not, so far as I can discern through the abdominal walls, much larger than the cork of that bottle. I think the character of the tumor was fibromatous.

I had another case that I diagnosticated tumor complicating pregnancy, the growth of which corresponded to the growth of the fœtus, and after delivery the decline in the size of the tumor was very rapid.

The operation Dr. Samuel did in this case is not only one that reflects great credit upon himself, but on the abdominal specialists of the whole country. His case would have died without an operation, and the crushing operation would not have been advisable, and, if done, no doubt would have resulted in the speedy death of both mother and child.

DR. GRIFFITHS: I wish I could give free expression to my thoughts in regard to this wonderful operation. It is a tremendous operation in any way, removing the child in that way, but, being complicated by a tumor and then the operation after the diagnosis, is one of the most wonderful things I have ever read of. I am glad that the operation was performed by a Louisville surgeon, and I hope that this Society will get credit for that wonderful achievement.

DR. W. H. WATHEN: I do not know of a more interesting report than the one Dr. Samuel made, either to the physician or the surgeon, for any of us may have to treat such cases, and we are often at a loss to know just what is best to be done. The subject of cesarean section for fibroid tumors, or for other conditions that prevent the

passage of a living child through the pelvis, or that so greatly endangers the life of the mother in efforts to deliver the child through the pelvis as to necessitate the destruction of the child or Cæsarean section, offers conditions always of interest. Since my early professional life I have been especially interested in the question of craniotomy and Cæsarian section, and some of my earliest writings were upon this subject, before the Ninth Internal Medical Congress, in Washington City in 1887. In the presence of some of the most distinguished obstetricians in the world I read a paper on the subject of Cæsarean section and craniotomy, in which I took the position that I had taken previously, that craniotomy on the living child was not a justifiable operation, scientifically, morally, or religiously, and the time had come when no surgeon or practitioner would perform this operation. Among the gentlemen present was the renowned authority upon obstetrics Professor Charpantier, of Paris. He was sitting immediately in front of me, and turned and said in bad English, "I agree with you in nearly everything you have said, but there are some cases upon whom I would perform craniotomy." I told him that, if he lived long, he would see the day when he would not do this operation. I read a paper at the meeting of the American Medical Association, in New Orleans, fifteen years ago, taking the same position, and I am proud to say that to-day it is the concensus of opinion in the scientific world that craniotomy should not be performed upon a living child. I showed from statistics at that time that the mortality was as great in the performance of craniotomy as it was with competent surgeons in the performance of Cæsarian section, and that if we can take these cases timely, before they have been in labor and become exhausted, that we ought not to have, if we exclude some exceptional cases, a mortality greater than two to five per cent. of the mothers and very little greater than two or five per cent. of the children; hence, we would in a hundred operations, save nearly two hundred lives, whereas in craniotomy we would not only sacrifice the life of all the children, but we would sacrifice more women than when we do the scientific Cæsarean section. Then, if we consider it in a scientific sense, if we consider it in a moral sense, if we consider it in a religious sense, and if we consider it in relation to state, we must do the Cæsarian section.

Now, in this case nothing could have been done but the Cæsarian section, because this child never could have been delivered by any other process. It is less dangerous to this woman to remove this uterus than to leave it, and then you leave a healthy woman. If I should operate on a case with a narrow pelvis, such as we have here, and a normal uterus, I would probably not remove the uterus, but would sterilize the woman — and this can be quickly done — by placing a double ligature on each tube and cutting between, rendering it impossible for the woman to become pregnant, and leave her just as normal as before, except the division of the tubes.

DR. SAMUEL (*closing*): The discussion has proceeded along lines that I did not include in my paper, to-wit: "Cæsarean Section *versus* Craniotomy." I dealt only with fibroids below the middle zone of the uterus, which made craniotomy out of the question. My views on craniotomy and cesarean section are not quite as radical as has been expressed. There are two absolute indications for cesarean section. One is a fibroid tumor that so chokes the pelvis that delivery is impossible; the other the rachitic, or deformed, pelvis.

In fibroid tumors of the uterus, I believe it is wise to remove the tumor and uterus, as a rule, because if the tumor is left it is liable to produce those complications which I have mentioned in my paper. The traumatism of labor is all that is necessary to produce trouble. The curette has been used in a myomatous uterus to remove the retained mass, and has been followed almost universally with serious results.

SOME OBSERVATIONS AND CONCLUSIONS IN OBSTETRICS.*

BY WM. A. KELLER, M. D.

I HAVE often thought that in no other branch of medicine is the physician called upon to manage complications and difficulties than in obstetrics, as all cases do not terminate just as we would have them to do, and we cannot always follow the text book, especially during the first stage, as we meet with so many different subjects in the mother that each case has to be handled accordingly.

The first point is antisepsis always. Another important point is to have the confidence of the patient especially if a primipara. If you have that your patient will follow instructions in regard to helping herself by bearing down during each pain, rest between pains, and I have observed the pains will be more frequent, last longer, and be more effective if the mind of the patient is free from anxiety and full of confidence.

Who has not had the experience of being called to a case of labor where the family physician could not be gotten and on your arrival be told that the patient has been having pains every five minutes, and finds the pains slow in coming, labor almost stopping, pains of short duration with scarcely any effect upon the os and the nurse will say, "Doctor, you have scared the pains away." I have also observed that the woman who is naturally of a nervous disposition, or afraid of pain, or thinks everything is not as it should be will, as a rule, have a slower labor than the one who is not afraid of the pains and who, after being told, everything is all right. I always make it a rule, unless the baby is born before I get there, to sit down for a few minutes before I get ready to make the examination; if it is one of the cases to which I had been previously engaged, I make some remark as to how near we came to the time of her confinement, about the bowels, etc. If to a strange case if time is up, how often are pains recurring, if bed is ready, and such other questions as the occasion seems to demand, so as to size up the patient, to let her get acquainted with me; then I get ready for the examination, and in my mind this is very important, for right here is where we get a great deal of the confidence; a primipara is always, as a rule, timid.

While washing and scrubbing my hands, I try to detract the patient's mind as much as possible from the coming examination. Then when I am ready, I will remark, "Now we will see how far you have advanced in your labor," or "Let us see how much good your pains have done," or "Let us see whether you are in earnest or just joking about this." I always make my first examination as brief as possible. First to find the extent of the dilation of the os, rigidity of same, width of bony strictures, and position then say, "Now we will wait until a pain comes to see how much good each pain does," unless we have a fully or nearly so dilated os.

*Read before the Academy of Medicine, of Louisville, April 5th, 1905.

Then I am in a position to give my patient some advice as to her condition and probably length of time before her baby is born. Usually I am able to say everything is all right, and it will not take very much longer as your pains so far haven't done you much good only to tire you out, but they will come soon and then it will not take long.

Frequent examinations are useless, and until the os is well dilated we can do very little, except where the pains are slow we can cause uterine contractions by sweeping our finger around the semi-dilated os with a moderate amount of pressure. In all cases where pains are slow and not of the bearing-down character I give quinia sulph., gr. five, every half hour until fifteen grains are given, and it has brought about better results for me than any other drug I have ever used, and in the last few years I use nothing else. Now after the os is fully dilated some cases go right on to delivery and some don't, and the dont's are the ones that cause us to consult ourselves and sometimes another physician. Of course the primipara gets more of our consulting time than the multipara, as a rule; what is to be done, wait or use forceps? I have never been able to set a specified time to wait, I always judge each case for itself; take a primipara, if she has had a long, hard and tedious first stage I don't wait as long as in a case where the labor has progressed rather fast; again if the pains are bringing the presenting part nearer the perineum, I wait, if not I consider forceps. A multipara after full dilation of os the pains either stop or are exhausting the patient, then I use forceps in a very short time, as I have never seen any bad results from the use of forceps either to child or mother that I had not thought would occur, and that is lacerated perineum.

I have had a total of 442 labor cases that I have kept a record of, 399 were normal labors, with eleven lacerations; and 43 instrumental, with eight lacerations. All of the eleven were primipara, and four of the eight were multipara, and all were children weighing over nine pounds. In my opinion they would have had lacerations without forceps. Chloroform I give in select cases, but only when the os is fully dilated and the pains are regular and having the desired effect of bringing the presenting part down to the perineum. I think it is much safer to give it to a primipara than multipara on account of danger of post-partium hemorrhage. Now after the head is delivered the first thing I look for is to see whether or not the cord is around the neck; if so, I deliver the other part of the child as quickly as possible regardless of perineum. I hook my finger in axilla, bring out one shoulder and arm, then the other, and then the body, unwind the cord; if the child does not breathe good, or not at all, a smart slap on back or the other methods advocated are resorted to with usually good results. I then clean the baby's eyes and mouth, after that wash my hands, attend to the cutting of the cord, and give the child to the nurse with instructions about cleaning the baby, always with lard or vaseline, and for her to let me know when she

is ready for me to attend to the navel, as I always see to that myself, no matter who is the nurse. Sometimes if you have a very thick navel cord you may think you have tied it tight enough and yet have some oozing, and if so you had better tie it again to make sure. Then comes the most important part in a normal case of labor, the delivery of the placenta. I want to say I have never had a case of adherent placenta, nor do I remember of ever waiting as long as thirty minutes for it, the majority of them coming in less than ten minutes, and I have had only one case of postpartum hemorrhages and that was in a case of breech presentation, third baby.

My method of delivering the placenta is as follows: After giving the child to the nurse and washing my hands I grasp the fundus of uterus firmly with left hand and take hold of cord with right, and when uterine contraction takes place, with left hand push and with right hand pull, taking care that I use equal force with both hands, and usually two pains expel it. I always examine it to see that it has come away intact. Next I give ergot, ℥i. By that time the nurse is ready for me, and boric acid sterilized gauze constitute the dressing for the navel. Next, after again washing my hands, I examine the perineum. I never examine the os after expulsion of fœtus, as I have been able to watch that, as a rule, during the first stage. Now if I find a lacerated perineum I at once set about repairing it, as I think it heals much better than by waiting; unless the woman is of a very nervous temperament an anæsthetic is unnecessary, as the parts are usually so benumbed that you can do it with very little pain.

A point in repairing lacerated perineums, which I have observed in my own experience to be an excellent one, and I always make use of it: In putting in my stitches, I always think of the joke, and put in an extra one, which takes in nothing but healthy mucous membrane. Not with the idea of making the canal permanently smaller, but, after bringing the ragged and lacerated parts together, I then tie the top stitch, which forms a roof for the laceration, prevents the lochial flow from entering, or blood oozing into the groove and, forming pockets in it, so to say, seals the top and leaves no place for any suppuration to take place inside the vagina. I have never as yet had any occasion to regret putting in the extra stitch.

Now after expulsion of placenta, repairing lacerated perineum, if any present, my next directions are to the nurse about baby and mother, and unless I have had the nurse several times before and know she is perfectly reliable and knows just exactly what I want done, I am very positive about telling her what I want done, and what not to do.

If there is much smarting and burning of the vulva, I order water that has been boiled and add carbolic acid, a towel which has not been used since it has been washed to be wrung out of this water just as hot as the mother can stand it and held to the vulva for fifteen or twenty

minutes, and this gives almost instant relief. Then order the mother washed with carbolized hot water.

After the mother has rested for a certain length of time, being guided by the kind of labors she has had, I never fail to tell the nurse no douches under any circumstances until she gets orders from me to do so. Now comes the anxious time for the physician. No matter how careful the physician has been, how favorable everything has been, the thought of sepsis, phlebitis, and mastitis will be before him until after the fifth day. On the second or third day the flow of milk will usually come, and I have seen it in a good many cases accompanied by a chill and a rise in temperature. Now, if there is no odor to the lochial flow, or it has not stopped, this will require no treatment, but if you detect a peculiar odor, or the flow has stopped, look out for trouble.

You may have a very bad odor with the lochial flow, a little fever, and still not much trouble. Usually a few hot douches, carbolized or bichloride preferable the first; a few doses of quinia will bring your patient around all right, but if you find the flow stopped and the pulse way out of proportion to the temperature, a certain nervous, excitable, anxious expression, look out for a serious case of sepsis, and you will be taxed to the utmost to save your patient, for here you have a general virulent condition to deal with, and the other simply a local. I have never been able to make up my mind what was best for chapped nipples after they occur. I have tried bismuth, boric acid, nitrate silver, nosophen, antiseptic washes, ointments, witchhazel, alcohol, and a lot of other things, breast shields, but they all seem to run about the same length of time before they get well, and in spite of all some have abscesses to follow.

Conclusion.—That the more the obstetrician follows nature the better will be his results. Assist nature as much as you can without interference. That more times harm has been done by trying to do too much than by not doing enough. That in applying forceps be sure of an empty bladder, the position of the fœtus, or get some one to put them on for you that does know the position. That it is imperative to examine the perineum after all deliveries. That I always feel my patient is safer when she has had a dose of ergot about postpartum hemorrhage.

DISCUSSION.

DR. FREEMAN: I have enjoyed listening to the Doctor's paper very much, and believe he has given us some very good advice. Of course, we each have our peculiar method of managing patients, and I suppose that no two of them may be successfully approached in the same way. The effect which the sight of the Doctor seems to have upon the pain appears to be very uniform; that is, the pain will cease for a while, which opportunity should be seized upon to become as thoroughly acquainted with the patient as possible, and meanwhile she is sizing up the physician, and her opinion is usually formed during the first few minutes he is in her presence.

The examination should be conducted in the most careful manner possible so as to avoid wounding even the most delicate feelings, especially in a primipara. The

patient should be assured by the physician that everything is all right, or, if it is not all right, that he is master of the situation, which will usually give her greater confidence and go far towards quieting any nervousness.

In cases where we find the os only slightly dilated, we must use our judgment as to whether it is best to attempt to bring on labor or to stop it. If the patient has been worried all night with short pains, has lost considerable sleep, and has taken very little nourishment, it is sometimes the best plan to administer a dose of morphine to quiet the uterine action and allow the patient to rest.

I have had very little experience in the use of quinin to stimulate the uterine action; in fact, although I have delivered a considerable number of women, I have used very little drugs of any sort. As a rule, I allow the patient to do almost as she pleases; if she wants to sit up or stand up or walk around the room during the first stage of labor, it will do her no harm; if she is inclined to be peevish, allow her to whine and fuss a little; it will probably make her feel better.

I have seldom resorted to the use of chloroform in labor cases, but on a few occasions I have, after the cervix had become thoroughly dilated, given a few whiffs to take the sharp edge off the pain, and it seemed as if the labor went on a little more satisfactorily. I have never seen postpartum hemorrhage follow its use, and in cases where the patient cannot be rendered sufficiently comfortable to sleep between pains, a few drops of chloroform administered by an inhaler or on a handkerchief is to be recommended.

As to the use of forceps, I believe we are very often tempted to use them when we are very busy, and have other patients and affairs to look after, but they should never be resorted to simply in an effort to save time. It is sometimes very difficult, however, to determine exactly when they should be applied. If the patient is getting tired, the pulse weaker, and the pain increasing, the forceps may be applied without materially increasing the pain, but there will always be a little more danger in delivering children with forceps than without, no matter how carefully they may be applied. I believe it is a safe rule to watch the head as it is being forced through the bony canal, and, if at the end of two hours, it has not advanced and the woman is getting tired, apply the forceps. Of course, under some circumstances, we may vary from this rule. If the head is born, and we find the cord around the neck, and we can get pulsation, there is no need to hurry as long as the cord is pulsating. The point I desire to make is that we should not empty the uterus too suddenly. I have waited as long as five minutes after the shoulders were born, with the hips and feet inside the uterus.

After the child has been delivered and the cord tied, the nurse, or any intelligent person who will do as you tell them should be instructed to place their hand over the uterus, make gentle pressure, and wait. The third stage of labor is where we make more mistakes than anywhere else. If we knead the uterus and press on the fundus, we are apt to break the placenta loose and leave some of it behind. The average length of time I have had to wait for the delivery of the placenta has been fifteen minutes. After turning the child over to the nurse, I have sat by the bed and held my hand over the uterus, and when I felt the placenta down in the vagina I lifted it out.

The best way in which to treat chapped or fissured nipples is to endeavor to prevent it by directing the patient to bathe the nipples in alcohol for a month or two before delivery of the child. This method has been found to be about as effective as anything.

I have never used any patent appliances in ligating the cord; I rather like tape. I always tie two ligatures and cut between, and in dressing the cord I use a piece of sterile gauze, which answers the purpose very well.

DR. HENRY E. TULEY: I was impressed by almost the first sentence of Dr. Keller's essay, in which he spoke of antisepsis. I believe that the sooner we abandon

the idea of antisepsis and entertain that of asepsis the better it will be. Plenty of water, soap, and brush accomplish this. Then use a sterile glove; I very rarely attend a labor case without them.

It seems to me that the first examination should be prolonged sufficiently to learn everything it is necessary to know, and thus avoid making repeated examinations. We may learn many things on the first examination, such as the presentation and position, the extent of dilatation, size of bony pelvis and of the outlet, etc.

I have never been able to get any good results from the administration of quinin, and have long since discarded it.

My rule for applying the forceps is that if, at the end of an hour in the second stage, the patient shows absolutely no progress and is in good condition, with increasing caput and dryness of the vagina, then apply the forceps; sooner if the child show signs of asphyxiation. Any one who applies forceps without knowing exactly in what position the child lies makes a very grave mistake. It is sometimes impossible, however, to diagnose the exact position by external examination, combined with the introduction of two fingers, because of the size of the caput, and it becomes necessary to introduce a sterile hand into the vagina in order to learn the position. If we put on the forceps in a posterior position, and make traction as for an anterior position, we are going to have trouble, and it may result in severe laceration of the perineum. Dr. Keller is to be congratulated on the very small number of perineal lacerations he has had in such a large number of cases. It has been my misfortune to have a much larger number, though I do not know the exact percentage. I believe that many of the authorities tell us that if we can get through with one in every twenty-five we have made a good record. Probably more lacerations would be found if a thorough examination was made of the vagina and perineum after labor. I saw one case a week ago to-day in which the forchette was not torn in the least, and the perineum upon external examination appeared to be intact, but upon separating the labiæ and looking into the vagina a considerable tear was found. I believe it is a mistake to make examinations to include a thorough inspection of the cervix after labor. There are bound to be some physiological tears which, on account of the flabbiness of the cervix after labor, are hard to detect unless they are very severe and extend up into the uterus, and it is often very difficult to repair these properly, even if found.

In my opinion, chloroform should be administered in the perineal stage of labor in all cases, for the purpose of controlling the expulsive, bearing-down efforts on the part of the mother, which are liable to result in more or less laceration.

When the cord is around the neck it can generally be removed by pulling it over the head. I wish to say a word of caution against the custom, recommended by a great many physicians, of putting the finger into the rectum in order to pull the occiput forward under the arch of the pubes. The finger is more apt to be used to remove the cord, if it is around the neck, than any other one. It has not been sterilized, and when carried into the vagina in that condition the chances of infection are very great.

For tying the cord, I have used for five years or more the apparatus devised by Dr. Kellogg, which consists of an instrument to open up an elastic band, or ring, which slips over the cord and, by contraction, controls the hemorrhage, maintaining an equal pressure on the vessels continually. Hemorrhage with this applied is impossible.

I agree entirely with what Dr. Freeman said about the delivery of the placenta. In some instances we are in too great a hurry, but in the majority of cases we are apt to wait too long. Not very long ago I saw a case in which the placenta was retained for a little over an hour, during which time there was considerable oozing, there was a great deal of contraction of the ring of Bandl and in the cervix, amounting almost to hourglass contraction. It was found that the uterus had contracted at its lower zone, leaving the placenta attached above.

I have not given a patient a dose of ergot during the past year or more. The best method of preventing postpartum hemorrhage is to maintain firm uterine traction after delivery, and my rule is to have the fundus held for an hour after the birth of the child. The time to begin to hold the uterus, in my opinion, is immediately upon the birth of the head.

I desire to disagree very forcibly with the statement that the appearance of milk is generally accompanied by fever. I do not believe there is such a condition as milk-fever, or that the appearance of milk at any time will cause the temperature to rise. A normal puerperium is a febrile one.

Lacerations of the perineum should be repaired within two or three hours after delivery. If this is done, the use of an anæsthetic will rarely be necessary, and it will be attended by very little pain, the parts being still numb from pressure.

The best treatment for chapped or fissured nipple is its prevention by the use of lanolin during the last two or three months of pregnancy, according to the suggestion of Dr. J. Milton Mabbott. It should be rubbed into the nipple at night and removed in the morning with a coarse wash-rag and castile soap. Another method was suggested to me by a practical nurse, who has nursed hundreds of babies. She stated that it was her practice to put the child to the breast two or three times during the first twelve hours after delivery, and then not again until the appearance of milk, and that she had never had a case of cracked or fissured nipple in all her experience. My usual practice is to keep the child away from the breast until the appearance of milk, feeding it water meanwhile, and in this way prevent the pulling and tugging at an empty breast which has a great deal to do with cracking or fissuring the nipple.

DR. B. C. FRAZIER: I believe that in every labor case the patient should be given chloroform, especially, as Dr. Tuley said, in the last stage, and I do not believe it has anything to do with bringing on postpartum hemorrhage. I have only seen two cases of postpartum hemorrhage, and in both of them the child was born before the arrival of a physician.

I have never had any bleeding from the cord after tying, except in one instance, and then it was so slight that the stain was barely perceptible through the dressing, and was due to not having tied the cord tight enough. It makes very little difference with what material the cord is tied with if it is pulled tight enough.

DR. LEAVELL: In regard to the care of the nipple, if the child is put to the breast in the proper manner, taking the whole nipple into its mouth instead of a portion of it, and twisting it, there will be a great many less cases of cracked or fissured nipple.

As to the use of ergot, at an experience meeting about a year ago, I believe almost every one except three or four stated that they had abandoned its use. I do not believe ergot has any place in obstetrical work, except, possibly, to control postpartum hemorrhage; but, if the method suggested by Dr. Tuley of placing the hand over the abdomen and maintaining firm pressure is adopted, it will seldom be found necessary to resort to ergot for postpartum hemorrhage. I also believe that it is one of the most frequent causes of sepsis. It may be true that it causes equal traction over the whole body of the uterus, but this is questionable, because the uterus is inactive for a considerable length of time prior to the delivery of the head, and it gets a certain amount of rest, and when ergot is given after labor it is reasonable to suppose that the os will be the first to contract. I believe this explanation would account for a great many cases of sepsis following delivery.

DR. KELSALL: I have obtained uniformly good results from quinin in a number of cases in which I have used it where the pains were slow and deficient in force. I usually gave fifteen grains in capsules.

In tying the cord, I generally use a silk ligature, and have never had any bleeding as the result of a defectively-tied ligature. A short time ago I was called about

1 o'clock at night to see a baby I had delivered three days previously. The father stated that it was having a hemorrhage. I hurried to the house, and found that the ligature was all right and that the cord was dead, but that it had begun to separate at the abdomen, and blood was oozing from there. The baby had lost a considerable amount of blood when I arrived, and I had a great deal of difficulty in controlling the hemorrhage. I used adrenalin solution applied locally, but the oozing would wash it away. I tried pressure and heat, holding it there for fifteen minutes, but without result. I then applied ——— solution, and succeeded in stopping it, but the baby died. In looking up the literature on the subject, I found that this does sometimes occur, and hereditary syphilis is given as the most frequent cause. However, there was no history of syphilis in this family. One suspicious thing was that the mother has had two previous miscarriages.

DR. SIMRALL ANDERSON: In regard to suturing the perineum and cervix, I once heard a paper read before the Kentucky State Medical Society, which advocated the repair of a lacerated cervix. Shortly thereafter I had a case of labor and made it a point to look at the cervix, and I did not see how any man could repair it, as it seemed to be simply a mass of lacerations.

The perineum should be repaired very carefully, and I believe the ideal suture for this purpose is chromocized catgut of fairly large size.

DR. WILHOYT (*visitor*): There seems to be quite a difference of opinion in regard to the use of quinin, but I do not believe it does any harm, even if no good follows its use, and in cases where the labor is a little prolonged it may be given as a placebo—to make the family think that something is being done for the patient. Two-grain doses given immediately after delivery and every four hours for a day or two thereafter will often have a tendency to keep down fever.

DR. KELLAR (*closing*): In the first place, I wish to apologize for a misstatement in the paper; that is, I used the word antisepsis where I should have said asepsis. I always carry in my satchel a scrubbing brush and some synol soap, and that is what I rely upon to prevent sepsis.

In one or two cases I have given morphine to stop the pains and give the patient rest, but my experience has been that it delays the advance of the child for hours afterwards, and we do not really gain any time.

In regard to forceps, I have no specified time for their application; I never look at my watch, but am guided entirely by the progress of the labor. If the patient is having hard pains, is making no progress, and is beginning to feel fatigued, I apply the forceps, but if there is a certain amount of progress I allow the woman to deliver herself without instrumental assistance.

When the cord is around the child's neck I deliver it regardless of the perineum. When my last baby was born, the cord was around the neck, and, although the doctor thought everything was all right, a very healthy-looking child was born dead. I believe it is a great deal easier to repair a lacerated perineum than it is to bring life into a dead child.

I do not believe it is necessary to give chloroform in all cases, especially in primipara. I have frequently seen cases where the delivery was so rapid that chloroform could not be given.

Holding the fundus for an hour is all very well where there is a trained nurse in attendance who has plenty of time, but where a neighbor is called in to attend the woman, as is frequently the case, she is not going to sit for an hour and hold the uterus. And this is the reason why I give ergot.

In regard to milk-fever, I also doubt very much that there is such a thing, but in nervous women it frequently happens that a chill comes on, and after that they have fever, but it generally passes away inside of twenty-four hours without requiring any treatment whatever.

I have never seen any remedy for chapped nipple. The preventive treatment is all right, but, when it has not been used and a case of chapped or fissured nipple develops, what is to be done for it?

A FEW POINTS ON SURGERY OF THE GALL BLADDER, WITH REPORT OF CASES.

BY L. P. SPEARS, M. D.

IN presenting this subject to the Society, I feel that an apology is due, for it is one which has been written on so extensively that it would seem threadbare. Inasmuch, however, as this condition occurs in 10 per cent. of all persons, and that so many cases of gall stones are unrecognized and are treated for years sometimes with the idea that indigestion, gastritis, or some such condition exists, I feel that a paper on at least a limited phase of the subject may not be amiss.

First, in making the statement that 10 per cent. of all persons have gall stones, it must be remembered that possibly only 1 or 2 per cent. of these ever have symptoms sufficient to call attention to it. It is essentially a condition of middle age, occurring most frequently from the years of thirty to fifty, and occurs three or four times more frequently in women than in men. It is, however, present very often in older people, but usually the stones lie dormant in the gall bladder, or are passed out from time to time without giving rise to acute symptoms or obstruction of the common duct. The condition is very rare in infancy and childhood, although some few cases are reported by authorities on the subject. In no other field of surgery is there afforded a better opportunity to gain more brilliant and permanent results to our patients, and, if I can but impress the members of this Society with the importance of watching for this so common condition, aside from a few special points in the operation itself, I will feel that my efforts have not been in vain.

To my mind cholycystostomy is the only conservative procedure to take in these cases, except in exceptional conditions where empyema or subsequent rupture and infection has taken place, in which cases cholycystectomy is the best procedure to take, allowing that the common duct is not obstructed. In very recent years cholycystectomy came into great prominence as *the* procedure in the majority of gall bladder cases. Richardson was one of the earlier and most prominent of its exponents, but he has since changed his mind, and recommends, I believe, that it be practiced only in exceptional conditions. I have myself heard one or two of our local surgeons make the statement "that cholycystectomy should be done in all cases; that the gall bladder was as useless an appendage to the human system as the appendix, and might as well be removed." In my opinion, it is only a question of time before these men will be obliged to retract their statements; that is, if they have a

sufficient number of gall bladder cases to draw any conclusions from. My objection to the operation of cholycystectomy is this: We can never tell when there are more stones in the ducts higher up, or even in the liver itself, which may later come down and block the common duct, the only avenue for the escape of the bile. While this operation may be attended with satisfactory results in some individual cases, it is unjustifiable except in the exceptions mentioned, as it leaves the patient not only with the danger of having the common duct obstructed by stones, coming down later on, but eliminates the reservoir for the excess of bile, and possibly the stones themselves, and also the means by which surgical intervention can be used in the form of drainage. In the words of Langenbuck, the essential prerequisite for this operation is the absolute knowledge that both hepatic and common ducts are patent, and, I might add, will remain so. The infection in these cases occurs usually in one of two ways:

First. Through the common duct from the duodenum, the bacillus coli communis being the most frequent invader.

Second. By the blood current, chiefly from the portal vein.

One of the most interesting points in gall bladder surgery is the condition quite frequently found in which the symptoms of gall stones are more or less typical, pain, localized tenderness, jaundice, repeated attack, clay colored stools, etc., but upon operation no stones are found. These cases, I believe, are caused either by infection, as mentioned before, or an inflammatory condition surrounding the bladder, which, by adhesions, interfere with the passage of bile through the common duct and cause the symptoms named. Some of these cases are tuberculous in origin, which, like tubercular peritonitis, are relieved, presumably, simply by the admission of air into the cavity. I mention these cases more in a way of encouragement, for a surgeon's chagrin is no little when he is expecting to find one or many stones and none are present; however, as long as the manipulation and freeing of adhesions gives such happy results and permanent relief to your patient, I cannot but contend that the end justifies the means. The cases in which the bladder is found distended without stones should be drained in the manner described later. It is always a good plan in advising such an operation to say to the patient or family that the operation is not for the stones *per se*, but for the pathological condition caused thereby.

In all cases of surgery of the gall bladder attended by great jaundice particular attention must be paid to hemorrhage, inasmuch as the coagulating ability of the blood is so much interfered with by the great decrease of fibrin present, what may ordinarily seem an insignificant oozing may in these cases result in a progressive and fatal hemorrhage. In these cases especially is the operation of cholycystostomy preferable to cholycystectomy, because the trauma is practically *nil* and the hemorrhage is easy to control.

In making drainage in these cases, it is much more preferable to stitch the bladder to the peritoneum only, rather than to the facia, or even skin, as practiced by some. The advantage of this can be seen when we realize that in drawing the bladder to the outer surface we make a fistula with mucous membrane throughout, and in case the common duct becomes patent, or the condition in the bladder entirely subsides, we find that it is with much more difficulty that we are enabled to get such a fistula to close than would occur if the bladder is sewed to the peritoneum only. Absorbable suture only should be used in doing such work, as it is possible, and rather probable, that an unabsorbed suture would find its way into the bladder, and would make a most excellent nucleus for the reproduction of stones. Catgut is the ideal suture in these cases, and drainage by rubber tubing.

I wish to call attention especially to the point of attaching the bladder as high up as possible so that in case of prolonged drainge the bladder may be at the desired time in a position to succulate, instead of having the fistula low down, in which case the bile runs out continuously, simply from the position it occupies, and may keep the fistulous condition present for an indefinite length of time. The following brief report of cases is more to show the variety of condition which may be found in these cases, and in the majority of which it is impossible to tell the condition present until the abdomen is opened, and then it is with our eyes and our fingers we can decide the best procedure to take:

CASE I.—Miss O., age thirty-four, history of repeated gall-stone colic for eight years, without jaundice. During six months previous to operation was never free from pain. She had localized tenderness over region of gall bladder. Cholycystostomy done. Bladder found to be very small, about the size of an English walnut, and with its wall about one-fourth inch in thickness. The bladder contained one large stone, and one other was teased from the cystic duct, and removed. Rubber tube drain was inserted, and removed on fourth day. Patient made a good recovery, leaving hospital four weeks later.

CASE II.—Miss H., forty years old. History of having gall bladder attacks for eight years. Was in septic condition, running temperature all the time. Gall bladder opened and found distorted and completely filled with a material of the consistency of partially-dried putty. Cholycystostomy done, with complete recovery after three or four weeks.

CASE III.—Mrs. G., thirty five years of age. History typical of gall stones for several years. Gall bladder exposed, and found to contain no stones. Adhesions about bladder freed and abdomen closed. Recovery complete, and has had no return.

CASE IV.—Mr. M., age forty-two. Gall bladder disease, following attack of typhoid fever. Bladder opened, condition of empyema found. Sixty-odd stones removed. Has since been jaundiced from time to time, and has passed a number of stones through fistula.

The last three cases reported were seen by me during my association with Dr. Ap Morgan Vance.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, MARCH 7, 1905.

DR. W. H. WATHEN: *Case I.*—I will report a case of extra-uterine pregnancy of about four months, operated upon last Wednesday. The fœtus was probably dead sometime before it was removed, but its appearance would indicate a development of about four months. The placenta and the cord are also here. Both tubes and ovaries were removed. The pregnancy developed in the outer part of the tube, probably in or near the ampulla, and when the operation was performed the placenta was attached to all parts of Douglas' pouch, to the posterior part of the uterus, and also to the broad ligaments and tube upon the left side, obstructing the outlet to the mouth of the tube, as will be seen from this specimen. The fœtal membrane can, however, be separated by dissection from the outer end of this tube. It was also adherent to the appendiculo-ovarian ligament, and when separated left a long bleeding surface upon the under side and border of this ligament.

The history of this case is peculiar. It was Dr. Morris' case, and he called Dr. Bailey and myself in consultation. There seemed to have been no well-marked symptoms of pregnancy up to the time I saw her. She had no nausea, no vomiting, no enlargement of the breasts, and her menstruation had been regular. She had borne several children previously, but none, I believe, for a few years. About a month before I was called to see her she had her menstrual period, and I learned from Dr. Morris that she had considerable pain at that time and a rapid pulse. This all passed away without suspecting pregnancy until about ten days ago, when she began to suffer severely, and her heart became very rapid, beating 160 times a minute, and her pulse was irregular and intermittent. Dr. Morris and Dr. Bailey administered the proper remedies and called me, and I could get no symptoms from her that indicated pregnancy. In the examination I felt in Douglas' pouch a mass that I remarked felt like placental tissue, but as there was no history of pregnancy that far I could not imagine how that could be.

In the operation I found just what I have shown you. Further, this woman had a mitral regurgitant murmur, pulse beating still irregularly and intermittently; but just before the operation, at Norton Infirmary, the pulse became regular and came down to 120. There was nothing unusual in the operation, no shock following it, and the woman was returned to bed in good condition. She was operated on last Wednesday; on Friday morning her pulse was 108, and she was doing well. At half-past one I was called, and found her pulse 160. The nurse's record showed

that thirty minutes prior to this the pulse was 108; the pulse was not of good volume; there was no hemorrhage, because the woman had no disturbances of vision; the pupils responded promptly; no coldness of the body; no cold, clammy perspiration, and none of the evidences of internal hemorrhage except the rapid pulse. Her pulse never came lower than 125 after that. She passed gas freely until about ten hours before her death, and was flat until that time. She was perfectly conscious until a few hours before her death. Her temperature went up on Friday afternoon, about fifty hours after the operation, to 104, abdomen still flat, gas passing freely. Her pulse was of much better volume, but never got under 125. On Sunday morning, the fourth day, she was somewhat distended in the epigastric region, her pulse grew rapid, and she gradually faded away and died, passing no gas the last ten hours of her life.

What caused this sudden shock I am unable to say, but the last day would indicate there was some kind of sepsis. Now, her uterus was three times as large as normal, and after the operation a mass as large as my two fingers came from the uterus, which looked very much like the beginning formation of a placenta; it was possibly thicked decidual membrane.

Now, whether this woman had sepsis from something within the pelvis, or whether some sepsis developed in the uterus, I do not know, but there certainly could have been no extensive peritonitis, and the infection must have been more of a systemic infection than of a peritoneal infection.

There is one point that I want to bring out here; used catgut in ligating the pedicles, which were very think and broad. Is it possible that this catgut could have had anything to do with it? About eight years ago I removed from a uterus a large myoma by excision, and I used catgut to unite the cut edges; the patient died without any peritonitis, and was feeling just as this patient did—perfectly well—with a temperature of 104–5 and a pulse of 140–150. She felt well until she died. This woman claimed to be better all the time until she became unconscious. Might it not be possible that the infection was received from the catgut in this case?

Case II.—This tumor was removed this afternoon from Dr. Morris' patient. It is an irregular fibroid tumor of the uterus, and upon one side is the remains of an intra-ligamentary cyst. The appendix was removed; it was lying down in the pelvis, and when the adhesions were separated it was left in a rather crippled condition. It was not removed because of any diseased condition within the appendix, but because there was a raw surface over two-thirds of the appendix from the separation of adhesions, and it would probably become adherent and cause trouble. I do not believe in removing healthy appendices at all, but when we have an apendix with the peritoneal covering injured, and we have a raw surface from the separation of adhesions, it is better to remove it, because it may become

adherent afterwards and require removal. It adds nothing to the danger of the operation.

Case III.—In conclusion, just a few words about another case. Yesterday I operated at Greenville, Ky., on a woman who for two months felt a tumor in the abdomen below the umbilicus. When I examined her I found what was apparently a tumor within the abdominal cavity almost as large as a man's head. The woman was brought over to the side of the bed, and without anæsthesia an incision made into this tumor, and over a half-gallon of pus came away. When the pus was all discharged, upon examination with the finger and a probe I could find no connection with any tumor within the abdominal cavity; apparently all of this mass was lying within the abdominal wall itself. Before operation in the vaginal examination the tumor pressed down upon the womb, and by percussion you could find apparently a large cystic tumor within the abdominal cavity. This is peculiar in that what apparently seemed an extra-abdominal tumor was merely a tumor of the abdominal wall, and peculiar in the fact that I am unable to arrive at any conclusion as to the probable cause of this tumor. The woman had no fever and no increase in the pulse rate.

DR. FLEXNER: What was the previous history?

DR. W. H. WATHEN: There was no history except that about two months ago this tumor began to form.

DR. IRWIN: These cases are of extreme interest, especially the last one the essayist reports—the one with abscess of the abdominal parietes. I have met with several cases of abscess of the abdominal wall, but none of them was as large as the one the Doctor has reported. I saw, about two years ago, a young woman less than twenty-five years of age who had met with an injury of a peculiar kind. On Sunday morning she and her sister were preparing to go to church, and they quarreled over the clothes they should wear. One sister got the other down, and when she did so she jumped on her abdomen with French-heeled shoes. The abscess formed somewhere in the abdominal cavity, and in a short time discharged into the intestinal canal. Pus discharged freely from the bowels and through the vagina. There were no local signs of an abscess in the abdominal walls, but the patient died. I suggested an operation, but this was not agreed to, because the family did not want to expose the history of the case. This was the most remarkable case of the kind I have ever seen. I do not know whether the pus formed within the abdominal walls or within the intestines. She lived two or three weeks, and must have discharged three or four pints of pus in this way.

DR. BAILEY: I have nothing of value that I can add to this case. It was of great interest to me, and before I saw the case at all Dr. Morris had administered remedies for the shock. In the early morning she had taken position on the commode for evacuation of the bowels, and possibly

the rupture occurred at that time from straining to evacuate the bowel. The case is interesting to me because she had given no signs of pregnancy. She gave a history of menstruating every twenty-eight days, and she said that the discharge twenty-eight days before this time had not been normal; there was some of this discharge that passed in the last days of this illness such as Dr. Wathen saw in making a vaginal examination. The heart was a bad one; the elimination by the kidney seemed to be fairly good. She took the anæsthetic beautifully, and had no nausea afterwards at all. We thought ourselves extremely fortunate that we had no complication in connection with the anæsthetic. The patient apparently for some two days did perfectly well, and, so far as I can see later on, the death was not due or had any connection with the parts that were operated on. My judgment was that death was due to sepsis coming from the uterus. I do not know how it was caused. It might have existed before that time, and yet there was no fever and no discharge up to the time of the operation; but the uterus was much enlarged. I did not see the discharge that Dr. Wathen describes, but no doubt it was a development of membrane in the uterus that came away; this is not unusual in connection with extra-uterine gestation. The uterus was much enlarged, and there was the formation of a membrane of some character inside of the uterus, and it seems to me that it is easier to account for the death of the patient from the condition of the uterus that from the catgut ligatures.

DR. W. H. WATHEN (*closing*): One point, the uterus was dilated large enough to introduce your finger, and the character of tissue that came away was entirely different from what we ordinarily see in ectopic gestation. There we have shreds of mucous membrane, but here there was a solid mass over a quarter of an inch in thickness and three inches long and an inch and a half wide. May it not have been that this womb conceived also, and the conception died, and this was the remains of the beginning formation of a placenta? We have quite a number of cases reported of conception, both in the womb and out of the womb at the same time.

DR. WILLMOTH: Did you have the catgut examined that you used in the abdomen?

DR. W. H. WATHEN: I have no more. It was boiled before using.

PROCEEDINGS OF THE LOUISVILLE SOCIETY OF MEDICINE AND SURGERY, FEBRUARY 20, 1905.

DR. VANCE: I have a specimen of an appendix that presents two or three points of interest. About the middle of January, I was called to a young Englishman of twenty-seven about 12 o'clock at night. He gave the history of having had only a slight "stomach ache" at 2 o'clock in

the afternoon, and this stomach ache gradually increased in the afternoon so that he ate only a slight dinner at 6. Afterwards this pain gradually increased, and at 12 o'clock it had gotten so bad that I was called in to see him. When I saw him he presented a perfectly flat abdomen, and complained of pain in the right iliac fossa, and upon pressure I could distinctly outline a small tumor. There was no guard up at all, but it was very easy to feel the appendix. It is the first case I have ever seen where the appendix could be certainly outlined before the abdomen was opened. The second point of interest in the cause is the unusual pain. This young man had pain so great that he was rolling from one side of the bed to the other; nothing would do any good that he had tried; hot applications had done him no good; temperature normal, pulse 80. The pain was localized, and we made the diagnosis at once.

We gave him a high enema, which was followed by three movements of the bowels, yet there was absolutely no relief of the pain. The family would not listen to an operation; there was no immediate indication except the pain. We then gave him a quarter of a grain of morphine; it failed to relieve him absolutely, yet he had never taken morphine before; we repeated the morphine, making a half-grain hypodermically, and it gave only slight relief; he went to sleep for two or three minutes, and waked up writhing with pain. I stayed with him until 3 o'clock; pulse 84, temperature 99. I told the family then that I thought it was going to be one of those cases where operation would be demanded. I called at 8 o'clock the next morning, and the pain was not relieved; pulse 94, temperature 100. After that the pulse and temperature went up tolerably fast. At 12 o'clock it was 102, pulse 110. Between the time I saw him at 8 o'clock and noon he was fairly comfortable, compared to the onset. We held two or three consultations at request of family, wasting precious time till noon. Then we removed him to St. Joseph's.

When I saw him in the morning, the guard was distinct, the rectus was hard on that side, and it was then a typical case of appendicitis. The appendix could not be felt. At St. Joseph he was given a low enema that moved the lower part of the bowels. The abdomen was very thin, not really more than half an inch, and that accounts for my being able to feel the appendix. The appendix was found on the anterior surface of the cecum sticking up against the abdominal wall, flexed upon itself. The base was gangrenous, and was not separated from the abdominal cavity. There was a slight amount of serum present, quite milky in appearance, which unquestionably in a few hours would have been pus.

After the operation the temperature dropped to normal; in three hours pulse back to 80 from 110. I used a gauze drain. The bowel was intensely red for six, eight, or ten inches on either side of the appendix.

The patient made a rapid recovery, going home on the thirteenth day after operation.

The points of interest in the case were the great pain—I have never seen so much as in this case—the slight temperature and little acceleration of the pulse. When the pulse finally came down I found the normal to be about 60, so that 80 was a more rapid pulse than at first appeared.

This specimen presents a gangrenous appendix, pus, and considerable omental adhesions.

DR. J. R. WATHEN: There is very little that I can add to this case. Doctor Vance is certainly to be congratulated upon his success. It was without doubt a timely operation and that brings up a very important question in appendicitis; the last word as yet has not been said of the treatment of this condition. It is hard to formulate fixed rules that will apply to every case, but I am firmly convinced that if we would adopt certain lines of treatment, especially that outlined by Oschner and Sohnenberg our mortality would be less. I do not agree with such men as Deaver who say that we should operate on every case at every stage of the disease. This is radically wrong. Those men who have had the largest experience and the lowest mortality have been men like Oschner who have followed an established line of treatment, and I believe from their conclusions we can draw very accurate methods of treatment. Oschner and Sohnenberg have the lowest mortality of any men in the world. Deaver's mortality is five per cent. In a large number of cases these two men have reduced the mortality one-half lower than any other operators. Their conclusions should bear some weight in the treatment of appendicitis.

Oschner's line of treatment has been misunderstood, but it seems to me very simple. He said that if these cases are seen within the first thirty-six hours we should always operate. He has reduced the mortality in these cases to one-half of one per cent. In those cases that have passed beyond this stage, and we do not see them until forty-eight hours after the beginning of the attack, we should wash out the stomach and wash out the bowel and place a large ice bag on the abdomen to relieve the pain, and feed by the rectum with pre-digested foods—not one drop of water is to be allowed by mouth, for this starts peristalsis, and this starts pain. When a localized superficial abscess forms, this should be drained and no attempt made to get the appendix. These cases should be operated on after the attack is well over; several weeks after the acute attack.

There are exceptions to this rule, as in gangrenous appendicitis with perforation. He believes that perforation is due to peristalsis, and that it is rare in those cases where the stomach and bowel are washed out and no food is allowed to be taken by mouth.

I did not believe in this treatment at first, but my clinical experience has since led me to believe that its results are good.

DR. HIBBITT: There are only one or two points that I wish to speak of in Dr. Vance's case. In appendicitis there are three cardinal symp-

toms—pain, tenderness, and muscular rigidity. The question of operating depends upon the pain, pulse, and temperature. I believe that after the diagnosis is made with the three symptoms given, and we see the temperature and pulse go up, then we can class it as an operative case, but as long as the temperature and the pulse remain normal it is a safe plan to watch the patient closely for two or three days, relying upon after-symptoms as to the plan of treatment. I think, like Dr. Wathen, that if they go beyond the operative stage the principal line of treatment should be by feeding by the rectum. I do not think we should give nourishment any other way, but resort to feeding by the rectum entirely and allow the intestinal canal to rest.

Dr. Abell: The question is an endless one. I do not care to discuss but one or two points, and that is the symptoms that may occur in twenty-four or forty-eight hours. Last Wednesday I operated on a case that had not existed forty-eight hours, a primary attack, in which the man's pulse was 72, temperature 99, and yet when the belly was opened the appendix was free in the cavity, and fecal matter had extravasated into the pelvis, and there was at least a pint and a half of pus in the cavity, and that with a temperature of 99 and a pulse of 77, showing that it is impossible to tell until we get into the case what we will find. I believe, in this case, from the situation of the appendix and the severity of the symptoms and the severity of the onset, we would expect a similar condition to be found at the end of that time. The condition is evidently a surgical one, and requires experience and judgment to tell just what cases we should wait on and which should be operated on immediately; it is not medical at any time; I do not believe it is ever medical. I do not believe that we should operate on every case as soon as we see it.

In regard to the catgut, I have had the same experience as Dr. Vance. I wrote to the firm, and they filled my order with catgut prepared by the old process, and this is satisfactory. I suggest to Dr. Vance that he use catgut prepared by the old alcoholic process; I have never had any trouble with it.

Dr Vance (*closing*): I want to say that this was unquestionably a case that demanded immediate operation; that is a point that I neglected to bring out. I do not think there is any doubt but that there would have been pus in a few hours, and I think it would have gone into the peritoneal cavity.

In regard to Dr. Wathen's point of applying an ice bag to the abdomen, unquestionably cold and heat act much alike. But I saw one case, through the courtesy of Dr. Ap Morgan Vance, of a woman who was operated on for a cyst with a twisted pedicle, and cold had been used, and there was a necrosis of the entire abdominal wall. I do not believe that that would have occurred from heat, because, if placed on too hot, we would hear from the patient, and it would be removed.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, MARCH 21, 1905.

DR. CHEATHAM: I have a case I would like to report. I was called to see a man up town this afternoon. He gave the history of being a drinking man all his life. He had been drinking whisky up to four days ago and decided he would change to wine. He had gotten the wine just across the street and he showed up blind in both eyes. He has a picture of the evidences of blindness we see from wood alcohol and it is a question whether the wine contains wood alcohol. It might be a good case for the Health Officer or the Pure Food advocate to get the patient to send over and get a bottle of the wine.

DR. MARSHALL: This is a case of great interest, especially as we had appointed a committee from this Society to urge our Congressman to vote for the Pure Food Bill, and it would be well for Dr. Satterwhite to take this matter up, with the assistance of Dr. Cheatham, and investigate this and call our Congressman's attention to the fact that we are conversant with the things that are going on in our city.

DR. BARBOUR: I was much interested in the report of this case. I have read of a number of cases of poisoning that have occurred recently from wood alcohol. I remember to have read a story in the newspapers several years ago where a number of miners up in West Virginia got on a spree and a number of them became blind afterwards. Undoubtedly these were cases of methyl alcohol poisoning as we recognize the clinical type. It is strange why wood alcohol should have such a poisonous effect; it is strange that the first, third, fourth and fifth of the fatty alcoholic series should be so toxic when ethyl alcohol in ordinary quantities seems not to injure one.

It is easy to understand that fusel oil will prove injurious but methyl alcohol having such a small content of carbon should be less toxic unless its volatility makes it more dangerous to nerve tissue.

As wood alcohol is so cheap I have no doubt that we shall hear of increasing numbers of cases of this form of poisoning. As I understand it the blindness is complete and I think this is another reason why we should do all we can in securing a Pure Food Bill. The Committee on Pure Food from our Society should certainly investigate this case.

DR. CHEATHAM (*closing*): I suppose you all saw the card of Mr. Grabfelder in the paper. He said he would not fight the Food Law if it did not make public the formula. He has spent years in getting up a blend and he did not want that blend on the bottle.

I have seen six or seven cases of poisoning from wood alcohol. I know a man who had been a drinker of whisky and wine and he took three or four drinks of wood alcohol and lost his vision absolutely. I had a case in this city, a music teacher, who lost her sight from drinking wood alcohol; she had it on a chair and by mistake drank it and lost her

vision from atrophy of the optic nerve. She is in Europe now. So far as my experience goes the blindness is hopeless.

DR. W. H. WATHEN: Three weeks ago a lady consulted me with the following history: Widow, aged fifty-five, mother of seven children. About three years ago she began to have irritation as she believed in the bladder, urination becoming more frequent; this increased until the irritation at the mouth of the urethra became very great and she would urinate about every thirty minutes during the day and about every sixty minutes during the night. She believed, having been told so by some physicians, that her uterus was badly diseased and pressing down on the bladder and would probably have to be removed. She was treated by home physicians and sent over to Arkansas to some sanitarium and treated for about five months with frequent local applications of some caustic to the meatus externus.

Upon careful examination the uterus was found to be entirely normal and she was found to be normal in every part of the body so far as could be detected except at the mouth of the urethra, where there was a small caruncle about four times as large as a grain of wheat, with contracted and hardened tissue around the month of the urethra. This caruncle was removed high up and the tissue all around the meatus was cut away and the external mucous membrane was sutured to the intra-urethral mucous membrane so that there was no raw surface left. The operation was performed about two weeks ago. She is not nervous now, had been very nervous before. She is sitting up and passing her urine probably every three or four hours during the day and I think once during the night, and is entirely relieved.

Now, I report this case because we find frequently little growths in the urethra in women called urethral caruncles, or we find sometimes the production of hypertrophied urethral mucous membrane, or we find, especially in old women, a contracted external meatus causing these symptoms of frequent desire to pass water and nearly always resulting, for the time being at least, in great nervousness and pain, and in many instances in a state of neurasthenia. It was easily removed, and it is well worth the attention in cases of this sort that an examination should be made.

DR. CHEATHAM: A lady came to me the other day, the wife of a physician in one of the neighboring towns, and is fifty-four years of age. The woman looked perfectly healthy and had a fine color and would not have been taken to be over forty-five years old. She had never been sick a day in her life. She had complained a little bit at times of her vision, recently. She thought her glasses did not fit her and came to me. I found her nearly blind in the right eye and the left not perfect. I looked in the right eye and found an albuminuric retinitis. The vision was about two-thirds to the left eye. I wrote her husband a letter. Dr. Hall

asked me if I had seen such a case and he reported it a case of interstitial nephritis. I have seen a great many of these cases, but have never seen one so marked in which the patient had not discovered it, and I have never seen them have such a good color as this woman had.

DR. LEAVELL: About six or seven weeks ago I was called to see a lady, aged seventy-two, who was suffering with considerable headache on the right side right back of the ear. Upon examining the ear I found considerable suppuration and I ordered a solution for cleansing the ear. Upon deep pressure over the mastoid region there was no tenderness and no bogginess—nothing to indicate active mastoid disease. They reported to me that she was getting on all right so far as the ear was concerned, the discharge ceasing.

I was called one night at eleven o'clock and found that she had considerable swelling in the region of the left knee. This was accompanied by high temperature and a great deal of prostration. The case went on for a few weeks with typical symptoms of a suppurative process going on somewhere. Now, the question arose in my mind as to the cause of this sudden swelling around the knee joint accompanied by heat and redness; the redness, however, subsided shortly, but the temperature kept up for a week or ten days; this however, subsided and came down to normal a few days before she died. She died suddenly. She was using the commode and seemed to suffer from a cerebral hemorrhage; she became comatose shortly afterwards and died the following morning.

The question arose as to the probability of mastoid abscess developing from this suppurative process occurring in the middle ear. I suggested to her that she see a specialist in regard to the ear trouble, but she said she was getting along all right and did not care to see anybody else, and I did not feel that the case called for any particular attention so far as the ear was concerned, the suppurative process ceasing and the mastoid region not becoming any more involved and no distinct symptoms of mastoid trouble. I do not know what was the cause of this suppuration, or this condition around the knee joint. Operative procedures were suggested and declined. No postmortem examination was held.

The relationship existing between this swelling in the knee and the process in the ear, while it may be remote, I think may have some connection. I would like to hear from Dr. Cheatham in regard to suppurative causes in the ear as a causative factor in suppuration in other parts of the body.

DR. CHEATHAM: I cannot say much in reference to this case. I never saw a case exactly like it, yet I can see the possibility of it occurring. It is reported in other suppurations and why not from suppuration in the middle ear? The doctor seems to have handled the case correctly, and as the pain in the mastoid region disappeared that would indicate that it was doing well. If she did have mastoid trouble, I do not see why

there could not have been an association between the ear and the knee trouble. That is all I have to say in reference to the case.

PROCEEDINGS OF THE ACADEMY OF MEDICINE, APRIL 5, 1905.

DR. JAMES VANCE: I have a pathological specimen to exhibit to the Society to-night, which, in my opinion, presents some very interesting features. It was removed from a maiden lady, forty-two years of age, who presented the following history: Pulse 130, respiration about 30; temperature 102½. She was very much emaciated and gave a history of having had a tumor fourteen years previously. Upon examination I found the abdomen very much distended, with the tumor seemingly in the pelvis. However, upon vaginal examination it proved to be the uterus. Her condition was so bad that for a time I was doubtful as to the advisability of making an attempt to remove the tumor. Finally, after much consideration, I advised that she be removed to the infirmary, which was done.

This patient had been subject to attacks of supposed pelvic inflammation; also slight attacks of peritonitis during the year previous to the time I saw her, and had intervals during which she was very despondent, and at times she became mentally unbalanced, so much so that the family were fearful of insanity. At the time I saw her she was delirious and her physician told me that this condition had existed for about a week. After she was removed to the infirmary I put her on some of the prepared foods and her condition began to improve rapidly. On the 10th of December I removed this growth, and when I first opened it I thought it had undergone sarcomatous degeneration. Here are two portions which have that appearance. The growth is entirely surrounded by a calcareous deposit.

There was no difficulty in removing this growth and the patient made a beautiful recovery from the effects of the operation and is now perfectly well physically, and for two weeks there was no sign of mental disturbance, but at the end of the third week she again became despondent, went from bad to worse, and about forty days after the operation had to be placed in an asylum for the insane. I am satisfied this woman would have died had this growth not been removed.

DR. B. C. FRAZIER: Why did it give so much trouble?

DR. VANCE: There were a great many adhesions, although they were not very extensive considering the length of time the condition had existed. She was vomiting everything and had these frequent attacks of peritonitis.

I have never seen anything just like these peculiar nodules. Upon

microscopic examinations of sections of the growth it proved to be simply a necrosis; there were no micro-organisms present, simply the cells died *en masse* and apparently became sort of mummified, with that calcareous deposit around the whole specimen.

DR. B. C. FRAZIER: I would like to ask Dr. Vance what especial indications there were for removing this tumor. It is not very large, the adhesions were not particularly extensive; it did not seem to give very much trouble, and he has not established the theory that it had undergone sarcomatous degeneration. Was it because of the mental disturbance that he thought it wise to remove it, although the patient was in such an extreme condition?

DR. HUGH N. LEAVELL: The mental condition of the patient in this case may possibly have been caused by the tumor, which may have interfered with the normal function, causing vomiting and inability to retain any nourishment, resulting in starvation insanity. Dr. Moren will perhaps recall a case which he saw with me several years ago, in which the patient was for a long time unable to retain food, and became so demented that it was necessary to tie her in bed with ropes and other appliances. After feeding her panopeptone by the rectum for awhile and by the stomach for a period of three months, she regained her mental equilibrium and is now as sane as anybody. I have had two or three other such cases; one since the first of this year, in which the patient was unable to retain any nourishment and became insane. However, by feeding the patient and improving the physical condition, the mental condition was restored to its normal state.

If, as I understand, the removal of the tumor in the case under discussion, has controlled the vomiting and the patient is now in perfect physical health, the chances are that she will regain her mental poise in the course of time, provided, of course, there is no local mental disturbance.

I think there were very good indications for the removal of this tumor and believe that surgical interference should be the rule in all such cases if it promises any hope of relief. Certainly, disorders of the uterus are more apt to cause insanity than almost any other condition.

DR. JAMES VANCE (*closing*): The fact that this woman had intervals during which she was mentally unbalanced was not made known to me until after the operation. Had I known of it beforehand it is doubtful whether I would have attempted anything. However, I believe that all her symptoms, even insanity, at that time were due to her physical condition which was very bad indeed, and that with the return of her physical health she will regain her mental poise.

This large nodule pressing on the rectum was unquestionably the cause of the vomiting.

Recent Progress in Medical Science.

GENERAL MEDICINE.

UNDER THE CHARGE OF
B. F. ZIMMERMAN, A. B., M. D., JOHN J. MOREN, M. D.,
AND DUNNING S. WILSON, M. D.

GENERAL MEDICINE.

Myelomalacia.—F. W. Langdon, in the *Journal of Nervous and Mental Diseases*, emphasizes the frequency of myelomalacia as compared with that of myelitis. He attempts to establish on a practical basis a clinical differentiation between the two diseases. The principal points are the following:

1. In myelomalacia there is no preceding disability. The onset of paralysis is sudden, with no fever and no chill, while in myelitis there is usually preceding disability or injury, onset of paralysis gradual or rapid, not sudden, fever with high-tension pulse, and sometimes chill.

2. Rigidity of spine is absent, spasm of extremities absent in myelomalacia, while in myelitis rigidity of spine is sometimes present, and rigidity of limbs often.

3. Symptoms on two sides differ more widely in myelomalacia. Paralysis more liable to be unilateral, dissociation symptom often present on one or both limbs, girdle sympton often absent, knee-joint and plantar reflexes unlike. In myelitis there is nearly always uniformity of symptom on two sides.

4. Sphincteric control may remain or be lost for a few days only in myelomalacia; usually for a long time in myelitis.

5. Bed-sores often absent in myelomalacia, inevitable in myelitis.

Case of Juvenile Tabes in Family of Neuro-syphilitics.—Griker reports this interesting family, in which the father was a syphilitic, the mother a tabetic syphilitic, in origin the disease having been contracted from the husband. Oldest son had juvenile tabes, a younger brother general paresis and the sister cerebral lues, causing hemiplegia and epilepsy. All the children showed evidence of congenital syphilis.—*Journal Nervous and Mental Diseases.*

Typhoidal Insanity in Childhood.—Edsall (*Amer. Journal Medical Sciences*) reports a series of 80 cases collected from the literature, with the following results as to the number of various forms of alienation: 36 maniacs, 26 dementias, 6 melancholias, 14 instances of delirium of convalescence, 1 chronic paranoia. The figures concerning the outcome of the cases: Excluding the cases of delirium of convalescence, there was

a total of 69 cases. Of these 43, or 62.3 per cent., recovered; 23, or 33⅓ per cent., remained insane, and 3, or 4.34 per cent., died. Judging from these figures, he concludes that it is a more serious trouble than the average clinician thinks.

Acute Meningitis.—Councilman writes on the pathology and bacteriology of acute meningitis. Three organisms are most frequently concerned in the production of this disease—pneuococcus, streptococcus, and meningococcus of Weichselbaum. The evidence we possess justifies us in the conclusion that there is a form of meningitis produced by the diplococcus intracellularis meningitidis. The epidemics of acute meningitis are due to this organism. Sporadic cases are not infrequent. With rare exception primary cases are due to this organism. Recovery takes place much more frequently in this type of disease than when due to streptoccus or pneumococcus infection. The organism does not live as a saprophite outside of the body; it is found on mucous membrane of nose, where it may produce a rhinitis. It is probable that the infection of the meninges occurs through the lymph channels from some of the mucous membranes. Epidemics are explained by the assumption that at certain times the power of infection is increased, either by increased virulence of diplococcus, or by a decrease in the resistance of the tissues.—*Jour. Amer. Med. Ass'n.*

Cerebro-Spinal Fever.—*Treatment.*—Stockton says the most useful procedure is to bring about rest by (1) absolute quiet in dark, well-ventilated room; (2) give greatest attention to secure proper performance of functions of body; (3) hot baths and intra-spinal puncture for relief of pressure symptoms; (4) antipyrine is used to reduce temperature for the relief of headache and to improve mental symptoms; (5) bromides and opium for relief of pain, convulsions, hyperæsthesia, etc.; (6) mercury for laxative effect.—*American Medicine.*

Some Observations of the Blood Pressure in Disease.—(Morris and Edmund, *Medical News*, Jan. 14, 1905.) After discussing at considerable length the relative merits of the different instruments for measuring blood pressure, the authors give the results of their findings with the Cook modification of the Riva Rocci instrument, and, while verifying certain clinical observations in renal disease and proving the fallacy of others, particularly in valvular diseases, show the importance of the instrument as a means of diagnosis.

In summarizing the effect of renal diseases on pulse tension, it may be said that an acute inflammation may or may not raise the pressure, but a chronic interstitial nephritis, practically, without exception, causes increase which, if it terminates in uremia, may give still higher readings. Chronic parenchmatous nephritis probably does not cause elevation of pressure as a rule.

The results obtained by Morris and Edmund in valvular lesions ac-

cord more nearly with that of the findings of Vickery, who states that all varieties of valvular lesions may show high pressures, but the majority of those with very high tensions are cases of those in which compensation was broken. The lowest reading is that of 133 mm. Hg., where compensation was good and hypertrophy had not taken place. The highest pressure was found in a case with incompensation, in which the readings varied from 186 to 222 (moderate sclerosis existing).

In exophthalmic goitre there was found, as would be supposed, an increase of arterial tension, which showed very little sign of diminution accompanying improvement in the condition of the patients.

In a series of eleven cases of pernicious anemia only three showed a normal tension; all the rest were subnormal, one very markedly so, showing only a pressure of 87, with mild arterio sclerosis.

A point of particular interest suggestive of the great diagnostic value of blood pressure readings is in typhoid fever, which, according to the authors' findings, showed a lower pulse tension, the readings averaging lower as the disease progressed. Mention is made of the very significant findings of Crile and Briggs, who have reported a sudden rise in arterial tension following perforation, or in the stage of peritoneal irritation, and, if further work confirms these observations, the changes of blood pressure will be a very great aid in making a dignosis of this complication, seeming to offer one of the most important and promising fields for blood pressure work. B. F. Z.

Digestive Tract—Stomach and Intestines.

Treatment of Amebic Dysentery. — (*American Medical Journal.*) Musgrove disapproves of routine treatment, and emphasizes studying the individual case.

They should be confined to bed and placed upon a liquid diet; opiates to relieve pain in the acute stage.

Clean food and pure water are essential. He believes bismuth salts are good, but they are abused. An occasional saline aids their action.

Ipecac is valueless in amebic dysentery, but in small doses may be tonic to mucous membrane.

Intestinal antiseptics may prove useful when fermentation occurs in stomach or upper bowel.

Avoid strychnine while using enemas, and use diffusable stimulants, as punches, dry sherry, etc. Calomel in small doses is useful.

When malaria is present he prefers quinin by enema.

Local Treatment.—Cold enemas, as advised by Little, does good in some cases. Quinin is of most service, varying from 1-1500 to 1-750 solution. Sodium chloride, morphine, or cocaine may be used in solution to favor retention of fluid and ease pain. One to three enemas in twenty-four hours is sufficient in most cases.

Treatment of Chronic Round Ulcer of the Stomach.—(*American*

Medicine.) Murdoch's experience shows the average duration of chronic ulcer to be about five years, which is equal to that of Fenwick, or four years and eight months.

He believes the time to begin solid diet is when the tenderness disappears. Orthoform in five (5) grain doses once or twice a day has proved of service in relieving the pain.

[When ordering orthoform, specify "new," as the unpleasant effects are avoided by the improved process in manufacturing.]

The Art of Eating Properly and Harm from Eating too Rapid and too Slow.—(*Medical Record*, Jan. 4, '05.) Einhorn calls attention to the importance of mastication, and eating when the body is at rest and mind at ease.

"Pleasant company, light conversation, jokes, and stories add to the enjoyment of food." Most people eat too fast, but some eat too slow and too little quantity. He reports two cures of indigestion.

An Experimental Study of the Movements Produced in the Stomach and Bowels by Electricity.—(*Medical Record*, Jan. 7, '05.) Marshall concludes that electricity, either external or internal, does not cause contractions of the stomach or bowels. Hemmeter, Manger, and Metzer are of the same opinion, while Einhorn and Ewald believe that contractions do occur.

Marshall believes the sensation of contraction is caused from the action of the diaphragm. He also concluded, after an interesting experiment, that the gastric mucous membrane is not such a poor conductor of electricity as it is generally thought to be.

Etiology of Gastric Ulcer.—(*Medical News*, Jan. 14, '05.) Ackerman reports sixteen cases from Dr. Cohnheim's clinic, in Berlin, illustrating the importance of trauma and chronic compression of the epigastrium, as occupation, corsets, etc.

He believes that the authors pay too little attention to this etiological factor in gastric ulcer.

Duodenal Ulcer.—(*The Lancet*, Feb. 11, 1905.) Moynihan has operated upon fifty-one cases in the past four years.

There were 7 perforating, with 5 recoveries; 22 associated with gastric ulcer, with one death; 23 operations for duodenal ulcer alone, with 1 death.

He believes duodenal ulcer more common than the text-books teach, and that the "symptoms are perfectly characteristic, and admit of an unhesitating diagnosis."

Of the 51 cases, the ulcer was found in the first portion of the duodenum in 50 cases, and one in the second portion. The age ranged from 19 to 61, 32 males and 19 females.

He again calls attention to the resemblance of duodenal ulcer to ap-

pendicitis. "In my series of 51 cases, 19 had been operated upon after an erroneous diagnosis of appendicitis had been made."

Pain is the most characteristic, varying from a burning to cramp, which may be severe and diffuse, though usually located to the right of median line, and occurs two or three hours after taking food.

Hæmatemesis and melæna occurred in 4 of the duodenal ulcers, hæmatemesis alone in 3, and malæna in 2. In the 21 cases associated with gastric ulcer, hæmatemesis and melæna occurred in 6, hæmatemesis alone in 4, and melæna alone in 3 cases.

Mucous Colic.—(*American Medicine.*) Kemp believes that ptosis of the colon and gastroptosis is the prime factor in this condition.

During the attack he confines them to bed, and allows a fluid diet. Tr. belladonna, 10 drops, every three or four hours for pain.

Hot normal saline irrigation may prove useful. Injection of milk of asafetida, or high enema of olive oil, to relieve spasm of colon.

During the interval of attacks, his object is to "put on fat." He supports the abdomen with the Rose belt. Cascara segrada for constipation.

Medical Treatment of Gastric Ulcer.—(*American Medicine*, March 11, '05.) Henry believes that medical treatment is conducive to the healing process.

He prefers the use of bismuth suspended in barley water or mucilage. For control of hæmatemesis, hypodermic use of ergot and adrenalin, and ingestion of cracked ice. Gallic acid and acetate of lead are useful. Occasional laxative dose of saline is good, but calomel purge is to be avoided. Brinton says, "A single calomel purgative has even appeared to undo all that months of sedulous treatment had been able to effect toward the relief of a gastric ulcer." He follows Leube's advice, and uses poultices during the day and cold applications at night. Recent hemorrhage contra-indicates the use of poultice.

To overcome constipation he uses a teaspoonful of the following: Rhubarb, 20.0; sodium sulphate, 15.0; sodium bicarbonate, 7.5.

He emphasizes the importance of system in treatment. It is system that has made the success of the spas of Europe. J. J. M.

DISEASES OF THE THORAX.

The Pseudo-malarial Types of Infective Endocarditis.—The importance of infective endocarditis and the difficulty often encountered in arriving at a correct diagnosis justifies a consideration of the pseudo-malarial forms under which it may be masked (Warren Coleman, *American Journal of Medical Sciences*, March, 1905). That this form of endocarditis is preceded by an attack of malaria, which gives the peculiar periodicity to the febrile wave, the author considers unlikely, since no other febrile disease, when following a malarial attack, pursues such a

course. Nor has it been proven that the majority of cases have been recently preceded by malaria.

The cases of pseudo-malarial types of infectious endocarditis which have been reported fall broadly in two groups, acute and chronic; the duration of the acute case is measured by weeks, of the chronic by months. Cases that have died after a few weeks' observation give histories extending over several months. Other chronic ones may continue for eighteen months or more.

The pseudo-malarial forms differ from the frankly septic and pyæmic forms rather in the periodicity than in the nature of paroxysms. The paroxysms may occur at regular periods, even at the same hour, and the intervals be fever free.

No especial infective agent is responsible for the pseudo-malarial types, nor is it necessary that there shall have been previous cardiac valvular disease.

The following pseudo-malarial types have been reported: 1, double quotidian; 2, quotidian; 3, tertian; 4, quartan; 5, septan; 6, mixed types; 7, irregular.

A single case may present during its course several of these types, yet at a particular period each type be pure. It is almost characteristic of these cases that they change their course. In spite of this fact, it is advisable to speak of distinct types.

The diagnosis is often very difficult, the heart often giving neither signs nor symptoms. If the infective process has been engrafted on an old valvular lesion, the diagnosis need not present much difficulty.

The failure of quinine to mitigate or arrest symptoms, gives the first intimation that the case is not malaria, assuming, of course, that a blood examination has not been made, though the presence of malaria does not necessarily exclude the presence of an infective endocarditis.

Fear in Heart Disease.—Wm. Rush Duncan, Jr. (*Journal American Medical Ass'n*, March 4, 1905) takes up this interesting phase of cardiac disease, and in a rather preliminary and incomplete report points out the frequency with which heart lesions are associated with apprehensive neuroses. He is inclined to consider the anxiety shown in these cases as explained by the individuality or personal peculiarity of the patient. The conclusions the author draws are as follows:

1. The cardiac lesion is not the primary factor in causation of the associated state of apprehension.

2. For want of a better term, what we call the idiosyncrasy of the patient is largely responsible for apprehension associated with cardiac lesions.

3. In neurasthenic types a want of vagus control is an important etiologic factor.

4. Our knowledge of this subject is not yet exact enough. On this last point let me urge you to urge on your friends who are engaged more

actively in clinical medicine investigation of this condition of apprehension in their heart cases.

Syphilis of the Lung Simulating Phthisis.—That luetic disease of the lung may be mistaken for phthisis, especially where there is no absolute history of primary chancre, is the belief of Drs. Hughes and Wilson (*Medical News*, Feb. 25, 1905). Attention is called to the fact that as early as 1858, Virchow described a pulmonary condition which he called "white hepatization," and which he noted especially in the lungs of syphilitic newly-born infants.

In support of their belief that syphilis may invade the lung, the authors quote Wagner, 1863; Pavlinoff, 1879; Schnitzler, 1879; Hiller, 1884; Heller, 1888, and more recently Councilman, Greenfield, Kidd, Perry, Rolleston, Weber, Wilks, Aufrecht, and Stengel, all of whom report cases of apparent syphilitic involvement of lung.

All of the signs and symptoms of tubercular diseases were present in the rather unique case reported by Drs. Hughes and Wilson, with the exception of night-sweats, loss of weight, and loss of appetite, though there was a continuous expectoration of muco-purulent prune-juice sputum.

Under the administration of large doses of iodide of potassium, the patient in twenty-four hours showed marked signs of improvement, expectorating less and bringing up less blood.

It is interesting from the pathologic standpoint, and in view of Virchow's comment upon the occurrence of brown induration and pigment and its histogenesis, that so many of the cases present hemoptysis as a prominent clinical feature.

Observation on Tubercular Infection.—David Walsh (*La Revue Internationale de la Tuberculose*, Feb., 1905) reviews the present status of measures looking toward the prevention of tuberculosis, and in doing so takes occasion to bring out some impressive facts regarding the inadequacy of the Government (British) regulation concerning meat and milk inspection.

"In the great London meat markets at Smithfield inspection is carried out by men who have not received any proper scientific instruction in physiology, pathology, and in the use of the microscope and other technical laboratory methods. These men trust to a naked-eye and empirical acquaintance with tubercular tissues. When certain parts only of a carcase are infected, they are empowered by a Local Government Board regulation to pass the remainder for sale. In the opinion of many sanitarians, this permissive authorization is absolutely unscientific and wrong, as it assumes that tuberculosis may be restricted to a group of important organs without general infection of the rest of the body. The inspectors, if they find the pleura removed from the thoracic cavity, assume that this "stripping," as it is termed in the markets, has been done in order to remove the evidence of tubercular infection, and the

carcase thus found "stripped" is accordingly condemned. From the present British scientific point of view, the sale of the flesh of an animal organically affected with tubercle is fraught with danger.

The damage done by the unproven statement of Koch, that bovine tuberculosis is non-infective to human beings, is apparent when endeavoring to enforce laws condemning tubercular cattle.

Prison Tuberculosis.—Probably no better place is offered for the study and prevention of tuberculosis than in our prisons, and this fact has been taken advantage of by Dr. Jewitt V. Reed (*Journal American Medical Ass'n*, Feb. 4, 1905), who in a most interesting article outlines the method inaugurated, and results obtained in the Indiana Reformatory, under the direction of Dr. H. C. Sharp, physician and surgeon in charge, and himself, during the summer of 1903.

Tuberculosis was used as a diagnostic means, and out of 965 inmates, 24 were found to be far advanced (no tuberculin used) and 102 gave a definite tuberculine reaction, making a total of 126, or 13 per cent.

The non-tubercular were separated from the tubercular by giving them separate cells and separate eating tables, receptacles for receiving sputum were placed in convenient locations, dust was prevented by frequent sprinkling, and all sweeping in cell-houses was done after sprinkling saw-dust wet with solution of crude carbolic acid.

Treatment of the tubercular consisted in giving those able to work occupations suitable to their strength, while those too weak to work were given benches in a sunny part of the grounds, where they could sit out of doors all day. All who were able were compelled to take regular exercise. Better food was supplied and drugs administered, such as cod liver oil, syrup iodide of iron, and others, as the cases required.

"A year has now passed since the above work was done, and, while we do not possess accurate statistics as to the number of inmates afflicted with tuberculosis at present in the institution, many facts go to show that there has been a decrease in the disease. During the year ending August 1, 1904, there has been ten deaths from tuberculosis, which contrast favorably with the eighteen deaths that occurred the previous year. After making our tuberculin tests, we found that the great majority of men who gave a reaction were those who were constantly coming to morning sick-call. During the past year the total number of inmates attending sick-call has been 40 per cent. less than the year before. These few facts are enough to convince us that we are working in the right direction toward the management of prison tuberculosis, and we feel that results thus far obtained fully repay us for our work."

Pneumonia.—The patient is instructed to lie on healthy side to favor flow of blood from diseased lung. The medicinal treatment in first stage should be (1) active purge, (2) wet or dry cups or leeches, (3) counter-irritation all over the affected lung as strong as patient can bear

it, (4) veratrum veride or direct abstraction of blood from vein. Stimulation does little or no good in the majority of cases. Morphine at times in pleuro-pneumonia is indispensable. Plenty of fresh air should be admitted, but body covering should be sufficient to promote perspiration and dilatation of the superficial capillaries.—*Keefe in Boston Med. and Surg. Journal.* D. S. W.

OSTEOPATHY.

A MIGHTY FORTRESS.

(With apologies to MARTIN LUTHER.)

The osteopaths appeared in great force at the State House in Boston, Mass., on February 24, 1905, at a hearing on their registration as physicians. Naturally their bill did not quite meet with favor from the regular physicians, and their sentiments might well be expressed in the following verses, which are but very slightly changed:

A mighty fortress is our Still,*
A bulwark never failing,
Our helper, he amid the flood
Of mortal ills prevailing.
For yet our ancient foe
Doth seek to work his woe.
His craft and power are great,
And armed with cruel hate,
On earth is not his equal.

But we in our own strength confide,
Our striving won't be losing;
We've got the right man on our side,
The man of God's own choosing.
Dost ask who that man be—
A. T. Still—it is he;
Mighty Osteop. his name,
From age to age the same,
And he must win the battle.

And, though this world with devils filled
Should threaten to undo us,
We will not fear, for Still hath willed
His truth to triumph through us.
Let goods and kindred go,
This mortal life also;
The body they may sever,
Still's truth abideth ever,
His kingdom is for aye.

—*Percussor.*

* Andrew T. Still is the so-called inventor of a crude, rough sort of massage which is most absurdly called "Osteopathy." It would be highly ludicrous were it not for the injury that it often inflicts.

THE
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Editorial.

The Treatment of Syphilis. The method of carrying the treatment of syphilis of the patient by the instructions of his physician becomes to the patient tedious, which in the past has been a kind of hammering away for twenty to thirty months, and, while we must all recognize that results are not to be obtained by a system of constant medication, we believe that the plan suggested by Dr. Bontems, and described by him in the *Journal de Medicine de Paris*, has real merit. First, because there is a period of rest for the patient in taking his medicine; also because it relieved the tedium of constipation. His method is based on successful treatment, with intervals of rest, laying tress upon the treatment of Prof. Fournier, that anti-syphilitic treatment should last from three to four years, no matter how mild the aspect of the disease may appear in the beginning. The method is as follows: He adopts the mercurial treatment, after the methods of Prof. Fournier and Dr. Martineau. The use of iodides of potassium during the first months, and later the administration of sulphur preparations.

The author gives a copy of his table to his patients, which consist of the following method of administering the drug, with intervals of rest: First year: Mercury for six months, iodides for three months, and rest three months. Second year: Mercury two months, iodides five months, period of rest five months. Third year: Mercury two months, iodides five months, rest and sulphur preparations five months. Fourth year: Withdrawal of mercury, iodides alone, alternating with rest and sulphur

preparations. Altogether, mercury is administered for ten months, iodides for twenty months, sulphur compounds for six months, rest for eight months.

Railroad Hygiene. The need of competent handling of sanitation and disinfection for railroad systems is now appreciated. A special and very important department of each and every railroad system should be "a Department of Sanitation and Disinfection."

This department should have under its supervision and controll all matters of a hygienic nature pertaining to the railroad service, and especially the cleaning and disinfection of its rolling stock, buildings, etc. The thorough cleansing and disinfection of passenger, baggage, express, and other cars carrying people about over the system, also cattle and freight cars, is not a simple matter to be handled by careless or incompetent persons. There should be at each terminal, or convenient places along the road, especially at places where cars are cleaned, a person who is especially qualified to supervise the cleaning and disinfecting of cars that are sent to his yard for such purpose.

Such a department should look after the road's interests in epidemics occurring on its system, and be able to render such assistance in quarantine districts as would inspire confidence upon the part of the local or State authorities and the citizens in or abounding such districts, as would prevent the unnecessary and often unjust hardships being placed on the road's business, and many other items that will arise from time to time of a sanitary nature could be handled in such an intelligent and thorough manner as would be of great value to the road, to the traveling public, and the territory through which it passed.

At the head of this department should be a man of experience peculiarly adapted to this class of work. He should be energetic, up-to-date, with modern methods of a hygienic nature, and fearless, because of the probable demands for his presence in infected localities to personally supervise matters coming under his jurisdiction in such districts. He should be a man of business qualifications as well, as it is rapidly becoming a recognized fact that persons having charge of sanitary affairs must of necessity, from a commercial standpoint, be a business man as well as a sanitarian, that he may be better able to cope with both of these important questions, and arrive at satisfactory conclusions.

The methods of disinfection and cleaning as are now employed by many railroads and other transportation companies, often being under the supervision of persons who are inexperienced or lacking in special qualifications necessary, makes it oftentimes an expensive and unsatisfactory proposition, which should be rectified by the establishment of such a department.

The traveling public, and even shippers, would soon recognize the great benefits to be gained by the thorough cleansing and disinfecting of the cars and the practical elimination of one great source of danger.

The ability of the road to intelligently handle such matters and assist local authorities in properly handling transportation matters in and through infected and quarantined districts should be of such a satisfactory nature as would do away with unreasonable restrictions and eliminate the danger of spreading the contagion to other points on its route.

EDW. C. LAVERTY,
Secretary Health Department.

Luther Holden. The writer well remembers going up the steps on Gower Street, London, in 1881, to carry a letter of introduction to Luther Holden. The door-plate had been scoured so long and so often his name could hardly be read. He received me kindly and gave me the key, in the shape of his card with a few words scribbled on it, to St. Bartholomew's Hospital and, as I soon learned, to medical London. How he impressed me, a doctor of a few weeks. Large, handsome, and kind, were it not for his brogue and burnsides, he might be taken for an American. A large, squarely-built frame, he seemed all bones, muscle, and brains. One could easily imagine him the author of "Medical and Surgical Landmarks," and of "Human Osteology." His old anatomy students used to tell with what pride he would draw himself up and dwell on the superiority of the human frame over that of other animals, himself a striking example.

Luther Holden was born at Birmingham, December 19, 1815. He was the second of eight children, their father and mother being first cousins. He was a handsome member of a remarkably handsome family, the most of the men of which were members of the clergy of the Church of England. He died February 6, in his ninetieth year, and has a brother still living, in his ninety-first year. He left no children. He was surgeon to St. Bartholomew's Hospital, having as one of his associates Sir James Paget. He was, in 1879, President of the Royal College of Surgeons, England, and delivered the Huntarian Oration in 1881. He was, in his "Human Osteology," the first to use the blue lines to show the origin and insertion of muscles. He lived happily through a long retirement, spending his time in the enjoyments of a country gentleman and in travel over much of the world. Everywhere he went he was received with open arms by St. Bartholomew's students. One of his trips was to Johannesburgh, in 1898.

The *London Lancet* and *British Medical Journal* of February 18, 1905, have portraits of Mr. Holden.

E. S. MCKEE, M. D.,
19 West 7th, Cincinnati.

EAGLE VALLEY MEDICAL SOCIETY meets at Sanders, Ky., May 9, 1905, having the following programme:

PAPER—*Acute Articular Rheumatism*, ... Dr. H. S. Rowlett, Ghent, Ky.
DISCUSSION, ... Dr. C. H. Duvall, Warsaw, Ky.
PAPER—*Typhoid Fever*, ... Dr. W. B. Messink, Worthville, Ky.
DISCUSSION, ... Dr. J. P. Nuttall, New Castle, Ky.
PAPER—*Medical Treatment of Appendicitis*,
Dr. B. L. Holmes, Carrollton, Ky.
DISCUSSION, ... Dr. S. E. Hampton, Milton, Ky.
PAPER—*Glaucoma*, ... Dr. William Cheatham, Louisville, Ky.
DISCUSSION, ... Dr. Adolph O. Pfingst, Louisville, Ky.

This Society is about a year old, has a large membership, and is one of the best-working medical societies in the State.

THE *Societe Internationale de la Tubereulose*, the object of which is to study the most efficacious means of defense and treatments for tuberculosis, held its general annual meeting in Paris on March 11th, under the presidency of M. Richelot, Member of the French Academy of Medicine.

After a discourse by Dr. Samuel Bernheim, in which he clearly set forth the actual state of the question, the Society proceeded to elect its Bureau for 1905–1906, and the following gentlemen were elected members:

PRESIDENT—Professor Lancereau, of the French Academy of Medicine of Paris.

VICE-PRESIDENTS—MM. Huchard, Richelot, S. Bernheim, of Paris; Professor von Schrötter, of Vienna; Sir Hermann Weber, of London; Professor de Lancasta, of Lisbon.

GENERAL SECRETARIES—M. George Petit, of Paris; Count Tolniewski, of London.

TREASURER—M. Papillon, of Paris.

ASSISTANT TREASURER—M. Q. Garnier, of Paris.

SECRETARIES DE SEANCE—MM. Tartiere, Bourdin, Roblot, and Chauveau, of Paris.

ARCHIVIST—M. Ruault, of Paris.

All applications for membership, etc., to be addressed to Dr. George Petit, 51 Rue du Rocher, Paris.

BOOK REVIEWS.

Dwight's Epitome of Toxicology.—A Manuel for Students and Practitioners. By E. W. Dwight, M. D., Instructor in Legal Medicine, Harvard University. In one 12-mo volume of 298 pages. Cloth, $1.00, net. Lea's Series of Medical Epitomes. Edited by V. C. Pedersen, M. D. Lea Brothers & Co., Publishers, Philadelphia and New York, 1904.

Dwight's Toxicology of the Medical Epitome series, is not a publication by any means amiss. The preface states that the work is not exhaustive, but we find it more so than that allowed the ordinary large chemical works, or even the Medical Jurisprudence text-books. Its order is well outlined, and the run of the reading is extremely smooth, all showing the authors familiarity with the subject. Certainly this valuable book, at its popular price, can fill a wide gap in many a physicians library. S. B. H.

New Methods of Treatment.—By Dr. Lamonier. Translated and edited from the Second Revised and Enlarged French Edition. By H. W. Syers, M. A., M. D. Contab. Physician to Out Patients Great Northern Central Hospital. Price, $2.50 net. Chicago: W. T. Keener & Co., 1904.

Lemonier's New Methods of Treatment is in reality a work on the therapy of the new remedies. The perusal of a large proportion of prescriptions of our successful general practitioners will reveal the presence of a great many new remedies, and by new is meant stable products of definite chemical nature not mentioned in but few of the so-called up-to-date works on therapeutics. This book is decidedly along the right lines. We would know more about these recent and reliable acquisitions to the medical armamentarium. Organs, therapy, serumtherapy, colloidal metals, new derivatives of the opium group, and other sleep-producers are all considered in this work, and some of the older remedies are considered and treated upon in the new manner as now used. Chemical nature, physiological action, and therapeutic application of agents is the usual form of elaboration used throughout the work. It will be found to contain much wanted material.

Serums, Vaccines, and Toxins in Treatment and Diagnosis.—By W. M. Cecil Bosanquet, M. A., M. D., Oxon., F. R. C. P. Lond. Physician to Out Patients Victoria Hospital for Children; Assistant Physician (late Pathologist) to Charing Cross Hospital; formerly Fellow of New College, Oxford. Price, $2.00 net. Chicago: W. F. Keener & Co., 1904.

It has been the reviewers' extreme pleasure, as well as his duty, to go deeply into the perusal of these valuable pages of texts. It has been of material aid, with its innumerable points, in the study of immunity. Theories only in the majority have we, but facts that suggest these there do exist; and 'tis these facts and theories, well mingled, that we have in this book, which the writer, even were he so disposed, is unable to give an adverse criticism. We cannot recommend this book too highly. It holds one's attention and interest as would a crisp item of news. S. B. H.

Clinical Urinology.—By Alfred C. Croftan, Professor of Medicine in the Chicago Post Graduate Medical College and Hospital; Physician-in-Chief to St. Mary's Hospital; Pathologist to St. Luke's Hospital. Illustrated. Wm. Wood & Co.: New York City, 1904.

Croftan's Clinical Urinology is a very smoothly-reading text, well worded and decidedly interesting, that can be found of practical value to both the clinician and laboratory worker, even though the one cared not for other's aspect of study. In other words, a clinician may find this book a valuable aid to him without his dipping into the laboratory tests; as also the reviewer has found the laboratory methods reliable and easily followed. Newer and more plausible views are promulgated with reference to certain physiological and pathological processes that explain the presence of products in the urine, and several superior tests are given which should supplant the time-honored ones that usually prove to be only occasional successes. Although the contents are arranged as regards the chemical and physical nature of the urinary products, the processes of their appearances are fully, as far as known, explained.

Clinical Urinology has an ample index, besides 292 pages, which, in turn, does not include the introduction. The arrangement of the body of the book is very convenient for both study and reference. It is a book one will never regret buying. S. B. H.

Lea's Series of Medical Epitomes.—Nagel's Epitome of Nervous and Mental Diseases. A Manual for Students and Physicians. By Joseph Darwin Nagel, M. D., Consulting Physician to the French Hospital, New York. In one 12mo. volume of 276 pages, with 46 illustrations. Cloth, $1.00 net. Philadelphia and New York: Lea Brothers & Co., Publishers, 1904.

The need of a manual of this kind is well put by the author when he says, "In this age of rapid progress and evolution of new theories and sciences, the student of medicine, who in four years is supposed to master the intricate and varied details of his chosen profession, and the busy practitioner, who must still spend a good part of his time in research and study, both feel the need of a text-book which will give them the essence of the subjset they are pursuing." This little volume meets the "needs." It is a clear, brief, and concise statement of all the essential facts known with regard to diseases of the nervous system and of the mind; an excellent work for the student and useful to the practitioner.

Simon's Physiological Chemistry.—A Text Book of Physiological Chemistry. For Students and Practitioners of Medicine. By Charles E. Simon, M. D., late Resident Physician Johns-Hopkins Hospital; author of Simon's Clinical Diagnosis, etc. New (2nd) edition. Revised and enlarged. Octavo, 500 pages. Cloth, $3.25 net. Philadelphia and New York: Lea Brothers & Co., Publishers.

This work should particularly interest the practitioner who was not taught physiology as it is today. As the author says, "Its study comprises the consideration of the various substances which are generally designated as food-stuffs, their origin, their transformation into living tissue, and their ultimate fate."

A call for a second edition in so short a time speaks for its value, and enabled the author to add the recent results of investigations in this

important branch of chemistry. Many chapters have been entirely rewritten. The subject matter being so well arranged and so clearly expressed, this work can be heartily recommended. J. J. MOREN.

Graves' Disease, with or without Exophthalmic Goitre.—By William Hanna Thompson, M. D., L.L.D. Physician to the Roosevelt Hospital, New York; Consulting Physician to the Manhattan State Hospitals for the Insane; formerly Professor of the Practice of Medicine New York University Medical College; Physician to Bellevue Hospital, etc. Cloth, pp. 143. New York: William Wood & Company, 1904.

As indicated by the author in the preface, this unique volume is devoted to the establishment of a new theory of the causation of Graves' disease, that of a gastro-intestinal toxemia, in opposition to the generally-accepted theory which has long obtained, that of the disease being due to a specific disorder of the thyroid gland. The author bases his theory on his claim that post-mortem examinations of thyroids in Graves' disease have utterly failed to show any difference from those of parenchymatous goitres which would tax the secretions of the gland during this growth and yet fail to produce any symptoms of Graves' disease; the symptoms produced by the administration of thyroid extract in large doses have failed to produce symptoms alike Graves' disease, except in a few particulars, and they non-essential; that the contention that because myxedema is due to deficiency in thyroid secretion, its antithesis in symptoms, Graves' disease must therefore be due to hyper-secretion is specious and illogical reasoning; that there is no other known example of a specific disease being caused by hyper-secretion on the part of any gland whatever; that the diminution or failure of the secretions of the parathyroids the more probable condition in Graves' disease that hyper-secretion of thyroid. He considers the thyroid involvment in Graves' disease merely a complication dependent on the toxæmia causing the other symptoms; that this disease can be as severe and well marked in cases which have no exophthalmic goitre whatever. He publishes clinical reports of twenty-eight cases of what he considered Graves' disease, in which there was no axophthalmic goitre, in comparison with the clinical histories of forty-two cases with exophthalmic goitre; he considers all the symptoms identical, yet a careful study of the cases creates in our mind a vague idea that he has allowed hisvalue of the two characteristic symptoms, tachycardia and "morning exacerbations," to elevate some other rather vague symptoms to those always present in what has always been considered Graves' disease. He rather arbitrarily eliminates exophthalmos as a constant and important symptom present in even his goitre cases; he also claims that no intelligent explanation has ever been made of its mechanism, and does not mention that of MacCallum, which seems reasonable to us. We admirethe ingenuity of the author in his reasoning, but are not yet ready to accept his theory based on his observations in twenty-eight cases against all the cases seen by the leading medical men of the world for years.

A. S. PRIDDY.

THE
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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

EMERGENCY SURGERY.*

BY JOHN R. WATHEN, A. B., M. D.

Professor of Surgery in Kentucky School of Medicine; Surgeon to St. Anthony Hospital, Louisville City Hospital, and Kentucky School of Medicine Hospital, Louisville, Ky.

IN this age of progress, with its increase of manufacturing industries, railroads, and even dangerous automobiles, we are confronted with many of the most difficult cases in the physician's practice. As all large corporations generally employ the services of a surgeon, just as they do their legal adviser, this work is deserving of special attention from our profession and should be studied more as a special department, differing, as it necessarily must, from the general class of emergency work seen in family practice. It is well that special men should be engaged for each corporation in order that they may be allowed to study the character of accidents a certain corporation may have, and that they will have arrangements made when they are detained to have others called in their stead. The old way of telephoning for the nearest available physician is fast passing out, and has not proven successful. In some of the largest concerns in the East and the North complete hospitals have been erected on the grounds and attention given within the works, as in the Homestead Plant and Carnegie Steel Company, of Pittsburg, and many other similar plants.

In other corporations, such as street railways, when people are injured in any part of a city there often arise questions of ethics and law to complicate the accident. If the company's surgeon arrives after some physician in the neighborhood has been called, he should offer his serv-

* Read before the Louisville Clinical Society, April 14th, 1905.

ices as a representative of the corporation, and if there is no objection on the part of the injured person or his nearest friends, he should take charge of the case, asking the first-called physician to aid in the first attention; but if the person injured or his friends insist upon the first physician called, he should retire from the case, after ascertaining the extent of the injuries. When the injured person is unconscious and in the hands of the corporation's employes, he should be immediately turned over to the company's surgeon by the first-called physician. This physician should then render his bill for the first attention to the corporation. The only exception to this should be in the case of the first called physician to the unconscious person, being his regular family doctor.

No corporation surgeon has any right to present himself upon the scene of an accident after another physician has rendered first aid, and announce that he will take charge of the case, unless the person injured or his friends agree, or the injured person is unconscious, and no one to decide for him. These are principles which are not only ethically correct, but have been established by law in many courts. It is always the courteous thing for a physician to ask the other attending doctor to aid in the first attention.

The next important question is what should be the contents of the first-aid box placed for the use of the laity until the surgeon arrives? From a rather large experience in this work I have come to the conclusion it should contain but few articles—namely, absorbent cotton, sterile gauze, and a few bandages. These articles will allow the control of hemorrhage and prevent further infection. Bleeding is the great fear of the laity, and after a careful study of statistics I find that one surgeon for a large glass factory reported 36,000 cuts with no death from hemorrhage, and Dr. Wible, of the Carnegie Steel Works, reports as many more with only one death, and that from a man over sixty years of age, who had the axillary artery severed by a car wheel passing over the arm near the shoulder.

Whisky, so commonly placed in the first-aid box, is also contraindicated, especially in all head injuries. It is usually given in largest quantities and soon unfits the injured person for the best attention. As Dr. Wible has well said: "Cold water, or hot coffee, as the indications demand, used by the laity, and, with the additional use of the aromatic spirits of ammonia by the physician, will suffice for most emergencies. An emergency surgeon frequently finds the patient to whom he is called intoxicated by the administration of whisky by kindly-disposed but indiscreet friends; and in many others, especially females, their distress increased."

The stretchers used to convey the patient to the company surgeon's dressing-room in the plant's works should be made of two long poles, to which is fastened a web of woven wire. This will last long and is easy

to keep clean. The stretcher should have no legs, and should be carried by only four men with patient lying down. If an ambulance is called, of course the injured person is transferred to their stretcher and thus removed to the hospital.

The foremen of the different departments soon learn from observation how to handle their accidents, and this greatly aids the surgeon. The corporation, especially if a large one employing over a thousand men, as many do, should set aside a special room or allow the use of a room when these accidents occur. This room should contain an enameled iron operating table, several enameled surgical pans, and two or three pails for hot and cold water.

There should also be placed in this room a chest for the exclusive use of the attending surgeon. This chest should contain such articles as a variety of bandages, ointments, anodynes, chloroform, ether, rubber tourniquet, rubber bag irrigator, cotton, adhesive plaster, a few ligatures, and such other simple drugs and dressing as would be needed.

When the surgeon receives the telephone call, he should be informed as to the nature of the accident, so that he may better prepare for the attention. Ordinarily I carry a metal case about twelve inches long, six inches wide, and four inches deep. This case is made so that one part telescopes the other, and the whole fits into a canvas case with leather straps and handle. The top part can thus be used as an instrument tray, and the whole is easily kept clean or can be sterilized. This case should contain a few artery forceps, scapels, scissors, needles, and ligatures, gauze bandages, cotton, a jar of ointment, and a bottle of dusting powder. If anything else is needed, the surgeon obtains it in the chest placed in the dressing-room of the company.

Many minor operations should be performed here, as the stitching of small cuts, dressing burns, etc., and the other larger operations left to the hospital, where better facilities are to be had. All fractures should be dressed temporarily, and later dressed after an X-ray picture is taken, which not only aids the surgeon, but is valuable in case of legal complications. A careful record of each case should be kept by the company's surgeon, and also the foreman of the department where the injured person worked. As many of the corporations are insured in the large accident insurance companies, these records are required. I have found that the card index system is invaluable for this class of records. These records are becoming more valuable of late years, since law-suits for damages are becoming so frequent.

Bailey, in his work, "Diseases Caused by Accidents," says, "It is estimated that one-half the jury trials in the State of New York concern actions for personal injuries, but even judicial records fail to reflect the real activity in this branch of law, since for one litigated claim there are at least eight claims settled out of court."

Germany seems to be the country which has best solved this prob-

lem. There the workmen and employees are insured against accidents incident to their various occupations. Such persons, injured during their work, are entitled to free medical treatment, and, from the fourteenth week after the accident, to an indemnity of two-thirds of their wages, payable monthly. If after settlement an important change in the injured person's condition takes place, the indemnity may be readjusted either to the advantage of the workman or to that of the employers.

"The amount of indemnity is graded in accordance with the disability. In cases of total disability, the full amount is paid; when the disability is partial, only a part of the amount. If a workman is disabled for his special occupation, but can support himself, though not so well, at some other occupation, payment is made in proportion to his lessened earning capacity.

"The salient differences in the systems as applied in Germany and in this country is that the damages under the German law are determined by an harmonious principle, applied whether the employer or the employe is negligent. Under the German method every factor except the extent of the injury is fixed and uniform. In the United States nothing is fixed except the abstract principles of law as set forth in the judge's charge to the jury. One of the wisest provisions of the German law is that the insurance allowance may be diminished or increased according as the injured person gets better or worse with time. In America when the plaintiff gets his money his case is judicially at an end. With our contingent fee system in America, the lawyer and the physician sometimes become partners with the litigant in an effort to collect from a corporation."

This state of affairs should not exist, and certainly not from the physician's side, as his sole duty is to testify to the extent of the injury and the probable disability of the injured person. The X-ray beautifully aids us in many of these cases.

The system of compulsory insurance in Germany owes its origin to Prince Bismarck, who, when Chancellor, at a meeting of the Reichstag said, "Give to the workman the right to work, as long as he is in good health; secure to him assistance when ill, and secure to him maintenance when old." The law provided that the employers should bear the expense of the insurance, and has been in operation since 1886.

Little interest has been shown in these United States, and it has scarcely attracted public attention, being regarded as an institution of the Old World. Rarely does an American workman look forward to the poor-house as his ultimate refuge, and their labor organizations have little considered these questions.

The Department of Labor in Washington has published a special report on their observations of the German system, and the matter has rested here on account of the indifference of the people over such mat-

ters, who prefer to wait until the accident overtakes them, and then, by recourse to law, receive damages enough to maintain the totally disabled the rest of their days.

Turning again more to the surgical aspects of my subject, I would call attention to the statistics, which show that in 99% of those fatally injured death occurs either immediately or within twenty-four hours from shock, thus necessitating as little suffering as possible. The dressings applied in the first attention should be simple and few, and with as little confusion or excitement as possible, thus increasing the efficiency of those aiding the surgeon. I will not burden you with details of the many accidents and methods of treatment in emergency surgery, but only wish to emphasize some few observations made after an extended experience with many such cases in the last few years.

In the treatment of that annoying condition known as burns, I have tried almost every known remedy, and have at last settled down upon certain general lines to be followed. The best remedy for burns is undoubtedly soap and water, and plenty of it. The sooner the medical profession realize that a burn is a surgical condition and not a medical, and treat them on modern aseptic lines and less medicines, the results will be better. If the burned part can be immediately immersed in a large, clean tub of lukewarm water until the surgeon arrives, it will exclude the air, thus prevent pain and soften and cleanse the part.

When the surgeon arrives and finds a very severe burn, often down through the muscles to the bones, the first indication is to relieve the pain. This can rarely be done by local applications, especially in burns from molten iron, and after an experience of many hundred such cases, I have at last universally resorted to the use of morphine, from one-eighth to as much as one grain, generally about one-half grain, placed in a hypodermic syringe, and half this amount injected at first, and after I have started to cleanse the part and the patient complains greatly, I inject the rest of the syringeful.

The dead tissue and blebs should all be trimmed away with a pair of small scissors, and all particles of sand and iron removed with cotton or the curette. The successful treatment depends upon the first attention to a burn, just as in most surgical operations, and failures can usually be attributed more to want of proper cleansing and too much thought for the relief of pain. I never use anything to cleanse the parts but hand sapolio and cotton, with the scissors, knife, or curette to aid in the removal of iron particles and sand.

If the burn is very extensive and I expect much exudation of serum, with its liability to infection, I apply a dry dressing composed of powder of stearate of zinc and balsam of Peru. Next to this I place a sterile gauze bandage loosely applied. This is covered with much sterile absorbent cotton, and over the whole several layers of gauze bandages. This dressing is removed in twenty-four hours, because it is soaked

through and through with serum and is becoming stiff in places. The same applications are repeated for several days until a dry condition appears and we have passed the dangers of infection. If infection occurs, I have found it is due almost universally to the staphococcus albus of Welsh, after having examined over twenty-five to fifty cases. This infection is very promptly checked if we wipe the part with a weak carbolized solution and then paint only that part with a saturated watery solution of Guebler's methylin blue—the familiar laboratory stain. It seems to immediately attack the germ, and suppuration is checked, usually after a few applications.

All necrotic tissue should be removed as early as possible, and I know of no dressing for these parts the equal of unguentine—an ointment composed of vaseline, alum, carbolic acid 2 per cent., ichthyol, etc. This should be applied only to those areas burned deep, and which appeared white at the first dressing. The burn will always heal from the skin edges, and a burn below the dermis, or true skin, will never scab over; therefore the skin edges should be often bathed with water or saline and kept soft with a small amount of ointment, while the center, if not necrotic, but granulating, should be dressed with this dry powder.

Small burns or superficial ones should be treated with unguentine or some good ointment, and sterile cotton applied for the first dressing, but, if possible, a powder should soon be applied, and the surface will be found to have dried, with an artificial scab, or covering, composed of a mixture of the powder and the serum.

I believe the keynote to success in the treatment of burns is proper cleansing of the parts at first attention, and frequent dressings, notwithstanding the fact that many authorities prefer to allow the dressings to remain long, and especially the first dressing, until suppuration occurs, before removal.

The next most mooted question in emergency surgery is the proper treatment of injuries of the hand, especially the fingers. These parts are usually found covered with machine grease and other common varieties of germ-laden material, which I formerly attempted to remove by washing with water, benzine, and carbolized solution. I now cleanse the wound of foreign matter and blood clots, and attempt only to remove the dirt which is on the skin immediately next to the abrasion. I then place a pellet of cotton over the wound and gently wipe with moistened cotton the other parts, making no attempt to remove but only the most superficial dirt. This method prevents carrying the germs of infection into the fresh wound. I then apply a dressing of absorbent cotton and gauze bandage, and remove the same by soaking in a weak carbolic solution at the end of twenty-four hours. In this class of cases the plan of the infrequent dressings and the principle of the organized blood clot, as used by many, has not yielded, in my experience, the good results claimed by its advocates.

I am also becoming less conservative than I formerly was in the saving of mashed fingers. The saving of badly-crushed fingers or toes requires months of care and attention, and the results are often very disappointing, leaving misshaped members, which annoy the patient, are a source of criticism for the surgeon, and an incentive to lawsuits for the corporation. Furthermore, the surgeon's remuneration is less for a difficult plastic operation where a member is saved than for an easy amputation at first attention, and the patient himself or corporation object greatly to the large bills for subsequent dressing and long-continued delay in his returning to work with his maimed and useless fingers.

The last emergency conditions I would call to your attention are those of sunstroke and heat exhaustion.

Dr. Wibble says:

"Sunstroke is caused by exposure to excessive heat of the sun.

"Heat exhaustion is caused by the combined action of excessive artificial heat in confined quarters and great bodily fatigue.

"The common signs and symptoms of approaching sunstroke and heat exhaustion are headache, dizziness, weakness, noises in the ears, absence of perspiration, and the sight growing dim.

"When an employe complains of the above symptoms, compel him to stop work and retire to a cool, shady place, and, unless he feels well in half an hour, have him go home.

"Under no circumstances allow a man to work who is in any degree intoxicated or who is drinking any alcoholic liquor while at work, because the drinking of liquors is one of the most common causes of sunstroke.

"Keep all departments as well ventilated as possible.

"Instruct the employes to drink moderate quantities of water at short intervals, rather than large quantities at long intervals.

"Any employe who is suffering from severe diarrhœa, cholera morbus, cramps, or who is not feeling well from any cause, should not remain at work, if his duties are at all laborious and he is exposed to excessive heat of the sun or artificial heat.

"When an employe falls with an attack of sunstroke, he should be carried with all the haste possible into the shade. Cold water should be poured freely over his head, chest, and body. Then place him on a stretcher and remove him to his home as rapidly as possible.

"In heat exhaustion (which can readily be distinguished from sunstroke by the surface of the body being cold and the face pale, whereas in sunstroke the surface is excessively hot, the face flushed, and the eyes reddened), place the patient on a stretcher, cover him with a blanket, and, if able to swallow, give him half a teaspoonful of the aromatic spirits of ammonia, in a glass filled with water. If not able to swallow, saturate a pledget of cotton with the ammonia and allow him to inhale same. Remove him then quickly to his home.

DISCUSSION.

DR. SATTERWHITE: The paper is certainly an excellent one and I have enjoyed it very much.

The essayist seems to have dwelt upon burns more than upon any other particular class of injuries. I recall a case of a locomotive fireman who was burned on the hand by a direct flame from the furnace in a collision. There were five or six blebs, not very large, extending from the wrist down to the fingers and I thought it was a burn of the first degree. When I saw him his hand was very black from grease and soot. I opened the blebs and made an application of balsam. However, in the course of three or four days he developed gangrene extending up to the elbow.

In this case I endeavored to get the hand as clean as possible, but I have never yet been able to get a hand of this description satisfactorily clean. The whole derm from the wrist down came off and the man had chills and considerable fever, lasting for several days. I used balsam on it for a while but as it occasioned a great deal of pain I shifted to unguentum which seemed to be very soothing.

There is one point which the essayist did not mention and that is the handling of fractures in emergencies. I have seen several simple fractures converted into compound fractures by careless handling on the part of the laiety, and in some cases serious results followed.

The doctor's ideas in regard to the relationship which should exist between the workman and the corporations are probably very good, but I do not believe they will ever be put into effect.

DR. MARSHALL: One point which occurs to me in emergency work is the general aspect of things when we arrive upon the scene of the accident, also the importance of getting a history of the affair in as few words as possible; the amount of force which has been applied and the relation of the part injured to the force. These things help us to determine the extent of the injury.

Whether the company's surgeon or an outsider sees the case first, the following one should always be very charitable in his remarks about it. I have followed some very good men and have discovered where they had overlooked certain important features, and I have been told by men who followed me wherein I have overlooked things which should have been done.

In this connection I remember a very interesting circumstance which occurred in 1894. I was in an operating room at St. Mary and Elizabeth's Hospital with Dr. Griffiths when a message was received that a man had been seriously injured and was being brought to the Hospital. When he arrived and was placed upon the table Dr. Griffiths and I exchanged glances. We were very tired from a previous operation and, to all appearances, this was a case for hip joint amputation; the whole joint appeared to be crushed. We, therefore, handled him very carefully but after removing the two pairs of trousers which he wore, in the hip pocket of which were a piece of chalk and a pipe, we discovered that he was scarcely injured at all. As I remember the case there was a great deal of "faking" about it.

The fake injury is one problem which confronts the emergency surgeon which Dr. Wathen neglected to mention. We should endeavor to be perfectly just in cases of this kind and, if anything, should lean towards the side of the injured. Last month I read a good story, a man and wife were riding on a railroad train when a wreck occured, and when they came to themselves they were sitting side by side on a bank. The husband immediately asked the wife if she was hurt and, upon receiving a negative reply, struck her in the eye. She subsequently received $500.00 for that black eye.

DR. ABELL: I can add but little to the discussion except to express my appreciation of the practical way in which the essayist has handled his subject. If his ideas with reference to the relationship between employes and corporations were carried out

it would certainly lead to a much better understanding on the part of all persons interested.

Dr. Wathen has given us some very practical ideas which have been demonstrated to be of service in cases of accidental injury. It is not always a matter of ease to control the shock and hemorrhage, and they often prove fatal before the patient can be given any treatment. To my mind they are the most serious conditions with which we have to deal in emergency work.

DR. GRIFFITH: I differ with the doctor in his remarks in regard to litters. I believe the best litter is one which has been adopted by the United States Army, which rolls up and can be set away in a corner. The name of the department to which it belongs may be painted on the bottom. I do not believe in litters without feet or wire cots. Some time ago a poor fellow, on whom a double amputation I afterwards performed, was brought to the hospital on one of these wire cots (there was nothing else at hand) and the effect was just the same as if he had been lying in a hammock; it was really distressing to look at him as he swung in every direction. I am in correspondence with the Japanese. They use a light bamboo litter that is very strong. I want to learn more of it.

Great difficulty is often experienced in railroad wrecks in getting the litter through the passage between the drawing room and the wall of the car. I am in the habit of getting the injured out through the windows. Dr. Marshall had occasion to take charge of a wreck not very long ago and he, very scientifically, built a platform and put the injured man into the car through the windows.

As a treatment for burns I have, for a great many years, used white lead. Next to that in efficacy is unguentum. Dr. Marshall saw with me two patients who were terribly burned by red-hot ashes from a furnace, in which nothing was used from beginning to end but unguentum. In washing the parts I use nothing but tar soap, the strongest I can get. Before applying the dressings of gauze or absorbent lint covered with the white lead or unguentum saturate them well in antiseptic solution.

Some time ago at a wreck I had occasion to attend a man who had suffered a severe burn on the hand. His hand was very grimy but I used extreme care in washing it and apparently it was as clean as a lily when I had finished. A day or two afterwards, however, Dr. Marshall saw the man and that hand was as black as could be. It seems that the grease and dirt had percolated out from the deep tissues making the hand look as if it had never been washed. Surgeons are very often condemned on this account.

In regard to whether or not severely crushed and mangled fingers should be amputated, I believe that even though the hand or fingers will not be an ornament an attempt should be made to save. I always tell the patient that he may have a very ugly looking hand or fingers when it gets well but that I am going to make an attempt to save it, and at any future time if he does not like the appearance they can be removed then.

Surgeons in the service of corporations are often treated very discourteously by patients and others whom they are sent to see. The other day I was sent to see a woman and found her in bed. I am not sure whether she answered my polite salutation or not when I bid her good morning. I announced my business telling her that I had called by direction of the General Superintendent. She gave me to understand that she did not wish to see me and that if I desired any information her doctor and lawyer were the proper persons to answer my questions. In response to my explanation that I did not come of my own accord but was sent by the General Superintendent, and I am sure that he would not have requested me to call unless it was so understood by her husband or ally. She replied that she did not care who sent me, and positively refused to tell me even where she was hurt. Such cases as these are exceedingly unpleasant.

In regard to the emergency case as shown, I have tried a little case of galvanized pans which fit into each other making a nest, and in addition to that I carry my satchel,

two or three sterilized napkins and towels, Miner's Surgical Case, Martin's bandages, etc. The nickle plate case exhibited is rather too heavy to carry. I do not believe I have ever seen an emergency satchel so complete as the one I am in the habit of carrying. The paper is one of great practical use. I wish that time would permit to go over in detail. I can only very briefly touch upon some of the points brought out by him.

DR. MORRIS: I wish to express my hearty appreciation of the very practical paper the essayist has given us. He has given us many useful points which are applicable by any physician or surgeon. I was especially interested in his remarks about burns. In the East End where I live there are a great many factories, distilleries, sawmills and places of that kind, and we are frequently called to attend persons who have been burned. My method of treating them is in accord with that outlined by Dr. Wathen, especially as to cleansing the parts first. This is a point which seems to be overlooked by a large number of surgeons and general practitioners and I agree with him that bad results are apt to follow failure to properly cleanse and disinfect the parts at the right time. It has recently been my misfortune to see two children die of burns within a period of two weeks. One of them fell into a vat of boiling water and lived only about twenty-four hours afterwards; the other caught its clothing on fire during the absence of the mother and by the time assistance arrived fully half the body was burned over; this one also died within twenty-four hours.

DR. E. S. ALLEN: I have enjoyed the doctor's paper very much. In reference to methylene blue as compared with another dressing which I used at the City Hospital, I report the following case: A woman was brought there who had been severely burned on both the lower limbs up to the pelvis. On the right leg I used a saturated solution of picric acid and on the left methylene blue; in about four days the right leg was in such condition as to permit skin grafting, which was done. On the left limb the methylene blue dressing was kept up for about a week but, as the burn did not seem to improve, it was discontinued and a saturated solution of picric acid substituted. At the end of four days this limb was covered with healthy granulation and skin was grafted on it. Besides being an antiseptic it has a local anaesthetic property which controls the pain in a very few minutes. I do not like picric acid as a primary dressing, but to control infection.

DR. LEAVELL: It is often a very serious question to decide just what to do with mangled fingers. I have had some experience in this line and I believe we can often do a considerable amount of surgery on the hand and still save the fingers. However, as Dr. Wathen says, where saving the fingers entails long continued treatment, suppuration and stiff joints, to say nothing of law-suits, it is probably the best plan to amputate them, although even when this is done, it will in many cases result in a lawsuit anyhow.

The method of treating burns outlined by Dr. Wathen, while it may not be considered by some to be very scientific, should meet the approval of any one who has had experience with this class of injuries. There is nothing more painful and it is very difficult to tell just what the effects of a burn will be in the end.

The relationship which should exist between the company's physician and the physician called in in an emergency is always rather hard to define. Frequently a patient will desire to send for the family physician when it is necessary to do something immediately in order to save life or limbs and will insist upon waiting until he arrives before allowing anything to be done. If his desires are disregarded and a mistake is made the physician is severely criticized.

THE GYNECOLOGICAL EXAMINATION.*

BY O. H. KELSALL, M. D.

IN these days, when so much stress is laid upon the physical examination and diagnosis of the chest organs, perhaps too little attention is paid to the modern methods of physical diagnosis of the female generative organs. If more attention were paid to this subject by the general practitioner, and the surgeon too, much useless suffering on the part of trusting woman and much unnecessary ignorantly directed treatment would be avoided.

In addition to the above reasons, the writer pleads as an excuse for this paper five months' services in the gynecological wards of the City Hospital, three year's experience in a local gynecological clinic, besides a moderate experience in his private practice.

The writer claims no originality for this paper, but wishes to bring a very important and much-neglected subject to the attention not only of the surgeons of the Society, but to the general practitioner as well, as he generally sees these cases first.

Of course, we take it for granted that a knowledge of the anatomy of these parts is a *sine qua non* for an intelligent examination of these organs, and the writer wishes to emphasize that it is only by constant practice and availing ourselves of every opportunity where an examination is necessary that we can acquire the so-called *tactus eruditus*, or, in other words, have seeing eyes in the tips of our fingers.

In order to make a complete gynecological examination, we must examine the abdomen, the external organs of generation, and the pelvic structures. As in a physical examination elsewhere, the methods are divided into inspection, palpation, percussion, and auscultation.

Inspection is limited to the abdominal surface, the external genitals, and those parts of the rectum, vagina, and cervix which can be seen either directly or exposed to view by the aid of instruments.

We may obtain some idea or suspicion as to pelvic disease by inspecting the color of skin of body or the mucous membranes; the greenish-yellow hue of the chloritic patient will often explain an amenorrhea; the cachetic appearance of a cancerous patient is also characteristic. A septic patient has a peculiar, sallow, anæmic appearance. To inspect the abdomen it is important for the patient to have no constricting clothing about the waist and that the clothing be so arranged that every part of abdomen can be easily inspected.

Inspection of the abdomen is of the greatest importance, and when the eye is trained to note the variations from the normal, much information is to be gained therefrom.

A very noticeable departure within limits of health may occur. Tympany produces a symmetrical form by a uniform expansion of the

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intestines in all directions, the greatest prominence being around the umbilicus.

If the fat is in the walls, in a fat patient, we often find creases from side to side; if the fat is inside the cavity, in the mesentery or omentum, in nullipara, the rotundity is simply increased, but in a multiparous woman the walls appear flabby and the abdomen flat and distended in the flanks. Often in a fatty abdomen, if an abdominal tumor is present, the examining physician may be misled to conclude that there is no tumor there.

As we study changes in form caused by abdominal tumor, we see the importance of knowing the appearance of the normal abdomen and its variations in health.

A pathological enlargement is either uniform over the whole abdomen or localized in some special area. The enlargement may be marked by bosses and grooves or may be uniformly rounded. A uniform convexity of the whole abdomen is only produced by tumors of the largest size and by marked ascites.

The source from which an enlargement springs serves to differentiate between pelvic tumors and tumors from other parts of abdomen; as with gastric, splenic, and hepatic tumors the enlargement springs from above, but in pelvic tumors from below.

A large ovarian cyst has a characteristic form, an ovoid distention of a part or whole of the abdomen, according to its size. They involve at first the lower part of the abdomen, but as they enlarge may come to occupy the whole abdomen. In parovarian cysts the enlargement is always uniform, as it is also in polycystic glandular ovarian tumors that have but few bosses.

A fibroid tumor often gives the abdomen the appearance as if it contained a large sphere, or baseball, that was pushed against the abdominal wall from within; again, it may give the lower part of the abdomen an irregular nodular appearance.

An inspection of the external genitals, vagina, and cervix usually serves to diagnose diseases of the same. In inspecting these structures, the physician should accustom himself to follow a definite plan; *i. e.*, he should examine these organs *seriatim*. A simple inspection will serve to diagnose a urethritis, cystocele, rectocele, abscess, or inflammation of Bartholin's glands, a relaxed or a torn outlet, etc.

Inspection of the vagina and cervix is accomplished by means of various specula, among the best of which are Graves' bivalve, Sims' duck-bill, and Kelly's small cylindrical specula.

The bivalve is introduced closed in a slanting direction at an acute angle to the vertical with the patient in the dorsal position, and then its blades are opened and the cervix inspected and the vagina also as the speculum is withdrawn. It is well to remember that the sensitive part

of the vulva is toward the clitoris, and manipulation of the speculum so as to touch these parts is to be avoided.

The small cylindrical specula should be used to inspect and treat the vagina and cervix in girls. The patient is put in the knee-breast position, and as soon as the speculum is introduced the vagina balloons out with air, and every part of cervix and vagina may be inspected by reflected light from a head mirror.

The duck-bill speculum is used with the patient in the left lateral, or Sim's position, and is used to inspect and treat the vagina and cervix.

We will next consider percussion as an aid to the diagnosis of the diseases of the pelvic organs. By its aid we elicit the flat note from the most prominent part of an ovarian or uterine tumor, in striking contrast to the tympanitic note of the surrounding intestines. By its aid we are able to tell from which part of the abdomen a tumor springs, and by its aid also we differentiate between cystic and solid tumors by noting the difference in the percussion note, and we diagnose between these tumors and tympany and ascites. In tympany we have a resonant note all over the abdomen, and in ascites a flat note in the flanks, with a resonant note above.

Auscultation is limited to the surface of the abdomen, and is used chiefly to differentiate between abdominal tumors and pregnancy.

Next we come to the most important method of diagnosis, and that is palpation, and there is no method of examination so satisfactory in its results. Palpation is chiefly used with the patient in the dorsal position, and it is applied by what is known as the bimanual method, a method which marked a great advance in the diagnosis of pelvic diseases, and has given us a fairly accurate means of diagnosis. By its aid the skilled examiner can palpate the normal uterus, ovaries, tubes, and broad ligaments, as well as the various pathological conditions and growths of these organs. We will first consider the bimanual palpation of the normal structures. But before we do that, the writer wishes to protest against the usual or common make of gynecological table with the stirrups for the feet eighteen to twenty inches apart. Rather than have the feet so far apart, it is better to let the patient place the feet close together; *i. e.*, six to eight inches apart on the table, in which position the knees naturally fall apart, and this prevents the tendency of the patient to draw the knees closely together as soon as the examining finger touches the vulva. In multipara with lax abdominal walls, it is all right to let them lie, as just outlined flat on their backs on the table with thighs flexed on abdomen and feet close to buttocks; but in nulliparа with a tense and rigid muscle guard to the abdomal organs, this position is not sufficient, and is often insufficient in multipara for the inexperienced examiner. An additional relaxation of the abdominal muscles may be secured by elevating the chest with a pillow, and also by flexing the thighs still more by holding the feet in the upright stir-

rups usually provided on all examining tables, or, when the examination is made at bedside, by allowing two members of family to hold thighs closely flexed on abdomen. The writer would urge that this position be used on all subjects more frequently, as it renders the examination much more easy even to the expert, and a more correct diagnosis is apt to be arrived at.

Before using the bimanual method, some information is to be gained by one or two fingers in the vagina. Bartholin's glands are examined on either side. The condition of the outlet is also noted by pressing backward with one or two fingers. The rugæ of the vagina are noted. In the normal vagina they are felt as folds, but in the relaxed vagina they are smoothed out. It is important to notice the direction of the cervix, whether it points in the axis of vagina, back toward the sacrum or forward toward the neck of bladder, and according as to how it points it directs our attention to noting the position of the fundus when we complete our examination. With the one finger in the vagina, the ovary cannot be felt unless it is displaced downward. The bimanual examination is conducted either with the organs *in situ* or with them in artificial displacement.

With the organs *in situ* the success of the bimanual method depends upon the abdominal hand in vaginating the abdominal wall behind the symphysis in the direction of the axis of the superior strait, and offering a plane of resistance for the vaginal fingers, so that when the pelvic structures are touched by them, they will not recede beyond reach.

We must always use the palmar surface of the finger tips of the vaginal fingers, and the writer wishes to emphasize the importance of using the right-hand fingers to examine the pelvic structures on the right side of the patient and *vice versa*, as it is very difficult to use the palmar surface of the fingers by attempting to examine both sides of pelvis with the same hand in the vagina.

Where the vagina is sufficiently lax, the writer prefers to insert two fingers, as the middle finger gives an additional length to the examining hand. Another method of more thoroughly palpating these structures is by invaginating the pelvic floor in the direction of the axis of the outlet, and this will give us in suitable cases one to two inches additional room.

The uterus is examined by the vaginal fingers lifting up on the cervix while the abdominal hand bears down from above, and the uterus, if in normal position, may be held between the two hands, and by rolling the vaginal fingers around in front and back of cervix the organ may be entirely palpated. If in antiflexion, by moving the vaginal finger in front of cervix, and, bearing down with the other hand close to symphysis, the resisting body of uterus can be felt very plainly bulging out the anterior vaginal wall.

If in retroversion or flexion the vaginal finger palpates the body and

fundus posteriorly in Douglass' pouch, but the abdominal hand here must make a marked invagination of the wall in order to place the body between the two hands.

By carrying the fingers far into each lateral fornix posterior to cervix and then pushing out toward each lateral wall of pelvis, while making deep pressure in the corresponding semi-lunar line, the ovaries can generally be caught and palpated on all sides.

The Fallopian tubes, when normal, are rather difficult to palpate, but when thickened by disease they can easily be traced from uterine end extending toward pelvic wall.

The bimanual method is also used with a finger in rectum and a hand externally on the abdominal wall.

A retroflexed or retroverted uterus is felt with startling distinctness by the rectal finger, especially when the fundus is firmly pressed down by the abdominal hand. With the fingers in the rectum, the ovaries are palpated in the same manner as with the vaginal fingers.

When coils of intestine filling Douglass' pouch impede the recto-abdominal examination, they may be gotten rid of by putting the patient in the genu-pectoral position and introducing a rectal speculum, when the rectum will balloon out with air and apply itself closely to the hollow of the sacrum and the posterior uterine surface, so that when the patient is again placed in the dorsal position all the structures may be outlined with great distinctness. Care, however, must be taken to keep the pelvis higher than the abdomen in returning the patient to the dorsal position. This is a method the writer has seen but rarely used, but is one deserving of a more extended use, as it facilitates a correct diagnosis very materially.

Another method by which a thorough examination of the pelvic organs is largely facilitated is by drawing the uterus down to the outlet. The great natural mobility of the organ readily permits of this, where it is not held down by adhesions. The normal uterus may be displaced downward with a tenaculum forceps till the cervix appears at the orifice of the vagina, without injury. In this way a most thorough and accurate examination of the uterus and its adnexa may be made.

This method is especially serviceable in discovering small subperitoneal fibroids or a tubercular inflammation of these organs when they are studded with tubercles. This method, however, should be used with caution, and should always be preceded by the ordinary bimanual examination, as in some pelvic inflammatory conditions such traction would be dangerous.

Even after using the methods I have outlined, sometimes we are unable to satisfy ourselves as to the condition present, and it is necessary to use an anæsthetic to render the examination more satisfactory. When the patient is anæsthetized, the physician can concentrate his attention

on the examination and not be distracted by how much pain he is causing the patient.

Kelly gives four distinct indications for the use of an anæsthetic in making a gynecological examination, and, as the indications are plain and self-explanatory, I can not do better than simply mention them without any further discussion of the same.

1. Where doubt exists after an ordinary bimanual examination.

2. Where a patient comes to the physician after having undergone treatment without results at the hands of some one else.

3. In all cases of pelvic inflammation involving one or both ovaries or tubes, without producing any gross tumor, when the use of the anæsthetic is to find out the extent of the disease.

4. Always in unmarried women.

Of course, before anæsthetizing the patient it is well to have her prepared by a previous thorough evacuation of the bowels.

This subject is a broad one, and it is, of course, impossible in a short paper to cover its entire scope; for to do so would really require a consideration of all the diseases to which the gynecological organs are heir to in detail, and that would require a text-book; but in examining these organs in disease the writer can do no better than to quote Kelly again, to advise the inexperienced to bear in mind the various points he gives us in looking for morbid changes in these organs. These points are as follows:

1. Displacements affecting position.
2. Fixations and adhesions affecting mobility.
3. Inflammation and tumors affecting size and form.
4. Any abnormal sensitiveness.
5. Peculiarities of consistence.

If any physician will bear these points in mind, he will gradually gain more skill in diagnosing diseases of the pelvic organs, and in time will not need to think of these points, as he will learn almost intuitively to direct his examination so that he will overlook nothing that it is possible to elicit by these methods of examination.

I would not omit from this paper mentioning the importance of a bacteriological examination of urethral, vaginal, and cervical secretions, as well as the microscopic investigation in certain cases of curettings from the uterus, or a piece of excised tissue in suspected carcinomatous disease.

If the physician would always be thorough in his examination, he would soon be able, not only to diagnose diseases of parts that are open to ocular demonstration, but to tell from the sense of touch alone, a fibroid tumor, a pelvic abscess, or a carcinomatous growth, besides easily recognizing all malpositions of the uterus, enlargement of the tubes from inflammatory disease, and in most cases recognize whether a cystic growth springs from the ovary or elsewhere. The writer has purposely

left out from this paper a consideration of the cystoscopic examination of the bladder and the examination of the ureters, as it would render the paper too long, and he wishes to consider merely methods of examination not requiring a special equipment, and that anyone could make.

The writer himself wishes to acknowledge he has not been entirely free from mistakes in making diagnosis of the diseases of the female generative organs.

On one occasion he thought he had a typical case of appendicitis in a girl about fifteen years of age. The patient had tenderness over McBurney's point, marked rigidity of the right rectus, slight elevation of temperature, etc. A prominent abdominal surgeon and gynecologist agreed with the diagnosis, an operation was advised and consented to. What was our astonishment to find a pale normal appendix that had never been inflamed, but we did find the uterus and both tubes and ovaries studded all over with tubercular nodules, and this could have been correctly diagnosed before operation if we had been more thorough in our method of examination. That patient should have been anæsthetized, the cervix grasped with a tenaculum forceps, the uterine adnexa thereby pulled down and a bimanual examination made through rectum and abdominal wall, and I know those numerous tubercular nodules could have been palpated and correctly diagnosed and the patient given the chance of constitutional treatment, if her parents so desired. However, she recovered health and strength and was greatly improved following the operation.

The writer knows of a case where the physician could have saved himself much mortification if he had been in the habit of practicing thorough methods of diagnosis of the pelvic organs. It was simply a case of pseudo-cyesis, or false pregnancy. He even went to deliver her, and had the patient send for the nurse, only to find on consultation with a brother practitioner that his patient was not even pregnant.

The writer has seen, too, a large prolapsed fibrous ovary with a retroverted uterus, the posterior surface of the uterus pushing the ovary against the rectum, mistaken for a subperitoneal fibroid, whereas, if the uterus had been pulled down to vulva with a pair of forceps, the identity of the ovary as a separate organ from the uterus would have been established and the patient had a chance of relief without operation, as the uterus was not bound by adhesions, but could have been replaced. These are but a few of the frequent mistakes in diagnosis made in these regions.

The writer knows that the most expert often make mistakes after painstaking examinations, but the point he wishes to make is that so often mistakes are made through carelessness or a lack of thoroughness.

In closing this paper the writer wishes to again disclaim any special originality for this paper and to acknowledge indebtedness to recent authors on the subject, and to current literature.

DISCUSSION.

DR. SIMRALL ANDERSON: I have listened to Dr. Kelsall's paper with a great deal of pleasure. We all know that in intra-abdominal troubles we can never be certain what condition actually exists until the abdomen is opened.

I believe the position of the patient in making gynecological examinations is of great importance; have a table rather than a bed, then have the patient elevate her hips and at the same time relax her abdominal muscles. By elevating the hips we shorten the distance from the vulva to cervix which is a great help; the rectum and bladder must always be empty.

I do not believe pulling the uterus down is necessary. If there are adhesions it is not proper to attempt to do so, and if there are no adhesions, the hips of the patient beng elevated and the abdominal muscles lax, it is comparatively easy to push the uterus down from above sufficiently to detect any pathological condition in the pelvis.

One of the most important things in making a gynecological examination is to determine whether there is any fixation of the uterus. If there is and the patient has pain in the back and lower part of the abdomen with some rectal and bladder symptoms, etc., it is nearly always safe to assume there is some pelvic trouble which requires abdominal operation. The bladder symptoms are also very important; in fact, I have known cases where the only symptoms of very extensive pelvic disease were those in connection with the bladder.

DR. KELLER: The paper was certainly an excellent composition and the doctor has covered the points very thoroughly.

I desire to agree with Dr. Anderson, however, about pulling down the uterus. I have always made it a point to elevate the patient's hips and when this was done I have always been able to get around the cervix as far as was necessary. However, in a great many cases, notwithstanding expert examinations, we are unable to tell just what we are going to find until we open the abdomen.

I cannot add anything except to say that the paper is a very valuable one and I believe we have all been benefited by it.

DR. HENDON: Dr. Kelsall's paper is certainly a very valuable contribution to this particular subject and serves to impress upon us some very important and practical points that we are all prone to overlook for various reasons.

One thing that occurred to me while the doctor was reading his paper is that the physician himself should take some precautions to protect himself in making these examinations. We have all heard of cases of syphilitic infection having been transmitted in that manner and several members of the profession have suffered considerably on that account. As a general rule the doctor is more careless about himself than he is with the patient.

Another point is conducting gynecological examinations in the office. It has been my experience that such examinations are rather unsatisfactory owing to the fact that women generally come into the office dressed in their street clothes and on that account I have adopted the rule that where a thorough and complete examination is required to make it at the patient's home where they can properly disrobe. Of course, I realize that a table cannot always be had and the examination must be made with the patient on a bed or couch, but I believe this inconvenience is offset by the advantage gained by having the patient properly undressed.

Another point which I would like to emphasize is that by the introduction of two fingers into the vagina we can explore a wider range of territory and acquire a much more extended knowledge of existing conditions than with one finger. The importance of making rectal examinations in gynecological cases with one finger in the rectum and the other in the vagina should not be overlooked.

In regard to pulling the cervix down to the vulva, I wish to say that while I have made a few mistakes in diagnosis I have, as a rule, been able to make very satisfactory examinations without resorting to this method.

DR. LEAVELL: There can be no doubt that most mistakes in diagnosis are due to the fact that examinations are not made sufficiently thorough. The methods which the doctor advocates in his paper are certainly very complete so far as gynecological examinations are concerned. I wish to emphasize the importance of the use of the head-mirror particularly in making examinations of the cervix and vagina. It is a common belief that the head-mirror belongs to the eye, ear and throat specialist, but with it a rectum may be inspected through a tube eighteen inches long and it can be done thoroughly.

As to the fixation of the uterus, this is another most important point. Whenever we find that the uterus is fixed we know that we have some abnormal condition to deal with and it is most likely a pelvic condition. Of course, there are other intra-abdominal lesions which might cause fixation of the uterus, but it is generally a pretty clear indication that there is some pelvic disorder.

If all examinations were conducted in as careful a manner as Dr. Kelsall advocates in making gynecological examinations, our mistakes would be a great deal fewer.

DR. TULEY: Dr. Hendon's remarks about making examinations at the homes of patients are timely, and he might have gone a little farther. We all know that our reputation is in the hands of our patients and even in this city there have been a number of cases of blackmail as a result of the fact that there were no witnesses present at the time examinations were made. For the physician's own protection all gynecological examinations should be conducted at the home of the patient where some member of the family can be present, or if in the office of the physician, always with a third person present.

DR. OSCAR BLOCH: I enjoyed Dr. Kelsall's paper very much and will add only one or two things which I consider essential to a complete examination; particularly, do I think that an examination is incomplete without a thorough search for a dislocated kidney.

The excursions of a movable kidney can be readily detected by means of bimannal palpation, one hand being in the posterior lumbar region and the other hand opposed to it, anterior, causing the recumbent patient to make deep inspiration and exhaustive expiration, the kidney can be felt as it passes between the opposed hands. Often, it is well to have the patient lie on first one side and the other while these efforts at palpation are being made. I believe that movable kidneys are much more frequent than generally thought and that many vague nervous and gastric symptoms are due to this condition.

The hernial orifices should be examined for a possible hernia and I think it well to cause the patient to cough while the hand is placed over the openings; in this way, often, one can detect a small hernia which is redueed by the recumbent posture of the patient and which may explain the abdominal or pelvic symptoms of which the patient complains.

Much information, especially, as to the position of the uterus and adnexa is to be obtained by an examination while the patient is standing, and I consider an examination incomplete where the patient has not been examined in this position.

Dr. Kelsall's paper this evening recalls to me a patient upon whom I recently operated, with complete relief of all of her nervous and gastric symptoms, who had been, according to her own statement, treated for "stomach trouble" by several physicians.

Examination revealed that she had rectocele, an ulcer of the rectum, an urethral caruncle and a lacerated cervix uteri.

I report this, merely, to emphasize, clinically, as it were, Dr. Kelsall's opening statement about the importance of a thorough and regular examination of each patient.

DR. FREEMAN: In regard to using the fingers in making gynecological examinations, I have never, except on very rare occasions, attempted to use two fingers. I

can usually reach as far, if not farther, with one than with two; besides, in some women trouble will be experienced in getting two fingers into the vagina and if there is much inflammation about the vulva it will elicit considerable pain, especially in a nullipara.

In regard to pulling the uterus down with a tenaculum, I believe that this is dangerous when a woman is suffering with some pelvic derangement. We are liable to break some pus sac and serious trouble may follow. I like the erect posture especially when ballotment is to be practiced.

DR. KELSALL: In regard to the various remarks about pulling down the cervix, I believe I stated in my paper that this method was always to be used with caution and should invariably be preceded by the ordinary bimanual examination. Of course, if we ascertain by the last mentioned examination that the uterus is more or less fixed by adhesions, it is dangerous to pull it down, but when we do attempt it great care should be exercised. This method was particularly applicable to the case reported in the paper where the entire surface of the uterus, tubes and ovaries were covered by tubercular nodules.

Elevating the hips is a very good plan but the same purpose is served by having the buttocks on the edge of the table and placing the feet in vertical stirrups.

Dr. Tuley makes a very good point in reference to having witnesses present while examinations are being conducted.

I have found by experience that the generative organs can be examined much better with two fingers than with one, and with very few exceptions the introduction of two fingers will cause no more discomfort than one.

DR. BLITZ: I have a case in which I have been unable to make a satisfactory diagnosis. The patient, a man, gives the history that several years ago after eating bananas and cream he experienced a very severe pain in the back. Several times after that he ate bananas and cream and each time thereafter he suffered from pain in the back and came to the conclusion that the dish mentioned was the cause of it and did not touch it any more. A week or ten days ago he ate some salmon salad and upon getting up to leave the table he discovered that his legs were very weak and he had to have somebody assist him to his room. There was no cramping or anything of that kind; they simply became very weak and numb. This weakness disappeared in about two days, but a day or two after that while he was going upstairs they commenced getting weak again; this time it only lasted one day. When I saw him he was very nervous. He was a man who smoked about fifteen cigars a day and drank a good deal of coffee. I would like to ask whether it is the opinion of any one present that the man's stomach could produce the condition described or whether it is simply a hysterical condition.

DR. HENDON: I wish to inject into the discussion a fact that has been very forcibly impressed on my mind, and that is that the incompatibility of fish and ice cream seems to be established among the laity. I have never heard them say anything of ice cream and bananas but I have been asked several times about the incompatibility of fish and ice cream.

DR. HUGH LEAVELL: Two weeks ago I was called to see a man who was suffering with cramps in the lower extremities. There was no fever and no history of digestive disorder of any kind and no headache; merely cramps in his lower extremities from the knees to the ankles. I thought perhaps he had a little autointoxication of some kind, probably due to the liver, and gave him free purgation. Four days later I was called to see him and found that he had facial paralysis on the left side, involving also the left half of the trunk. He denied positively the existence of syphilis; he has never imbibed excessively and particularly is this true of the last year during which time he stated he had taken no intoxicants. The facial paralysis is to-day in the same condition that it was a week ago; there has been no cessation, no involvment of the

ear, no tenderness in the region of the mastoid and no evidence of any involvment of the facial nerve. The man has been taking iodide of potassium in ascending doses until he now takes twenty drops; he has also been taking strychnia.

It is a question what causes this facial paralysis particularly at this season of the year. The cramps were intermittent coming on at intervals of an hour or two, and lasted only three or four days. The man is thirty-eight years of age and is employed as an engineer in one of the railroad offices here, which, however, does not seem to have any bearing on the case.

DR. MOREN: Can he shut his eye or raise his eye-brow?

DR. LEAVELL: He cannot shut his eye, but he can move his eye-brow.

DR. MOREN: The chances are that this will prove to be peripheral neuritis and independent of the cramp in the limb. The lesion must be very extensive to affect both centers of the seventh nerve. The branch that goes to the upper face is separate and a little bit away from the branch to the lower face. In cases of apoplexy the lower face is usually the part affected. The eye may be involved for a short time but it soon passes away and leaves paralysis of the lips only, while in peripheral paralysis the whole face is affected.

DR. TULEY: I wish to exhibit a temperature chart in connection with a case of typhoid fever which presents two unusual features. The patient, a boy about nineteen years of age, developed a typical case of typhoid fever in every respect. On the twenty-seventh day of the disease the temperature, in about five hours, dropped from 103 4-5 to 96 2-5 without any hemorrhage and apparently no cause for the reduction. Within the same twenty-four hours it rose again to 103 2-5 and dropped to normal the next day. For four days it ranged between 100 and 101. On the nineteenth day the boy developed paralysis of the external muscle of the right eye and this exists to a certain extent to-day, although it is gradually improving. There was double vision for a week or ten days after it was first noticed.

The enormous drop in temperature without hemorrhage was a new experience to me. This case emphasizes the importance of the use of temperature charts.

DR. LEAVELL: The condition described by Dr. Tuley might be explained by the theory that a central lesion developed causing the paralysis of the abducens nerve which supplies the external rectus and also involving the heat center just at the time the temperature dropped. There must be close relationship existing between these two conditions.

A STUDY OF BURNS.*

BY T. K. VAN ZANDT, M. D.

THE term burn signifies those cutaneous traumatisms due to the action of heat or caustic chemic substances upon the skin. The importance of the local lesion, relative to the course, symptoms, sequelæ, prognosis, and treatment, varies with the degree of the causative temperature, the duration of its influence, and the extent of the burn. We, therefore, for practical reasons, divide burns into three classes, or degrees, which represent, not separate and distinct forms of the pathological condition, but merely grades of intensity.

The first degree, or combustio erythematosa, is simply a slight in-

* Read before the Louisville Society of Physicians and Surgeons, April 20, 1905

flammatory condition produced by exposure to a temperature somewhat below the boiling point of water, and consists of a diffused redness and slight swelling, accompanied with a hot, smarting, itching sensation. We often see this degree in the bather exposed to the hot rays of the summer sun. The anatomical effect is an immediate hyperæmia of the smaller cutaneous vessels, followed by paresis and passive congestion.

The second degree, or combustio bullosa, includes that form in which blistering takes place. Here there is an exudation of serous fluid into the tissues, particularly the rete malpighii, and a portion of the epidermal layer is lifted up, forming the covering of the blister. The blisters may develop immediately or several hours after the accident has occurred. There is often marked pain, and, if the burn is at all extensive, high fever may result.

The third degree, or combustio escharotica. The characteristic point for burns of this degree is eschar formation—the immediate mortification of the skin. Albuminous coagulation occurs, affecting the contents of the vessels and the serous fluid and albuminous substance of the tissues; greater or less areas are deprived of nourishment, and necrosis of tissue follows. On the other hand, actual carbonization may occur at once.

The pain of a burn may be of every grade, from moderate burning to intense agony. The most painful variety is that in which the outer layers of the skin are destroyed, exposing the nerve-endings, while very little pain is usually complained of when total destruction of the skin has taken place.

These local symptoms or anatomical changes I have mentioned do not complete the full picture of a burn. Many grave complications affecting the body as a whole are often associated. These constitutional symptoms may vary from slight fever in burns of the first degree to profound shock in the severer forms, followed by reaction, and this succeeded by congestion or inflammation of the viscera. For example, let us take an average case, that of a person whose clothing has been ignited. We will perhaps find the greater portion of the injury of the first and second degree, only limited areas presenting the third degree. During and immediately after the accident the patient is very much excited, often acting insanely, screaming and moaning; but becomes quiet after the injuries are properly dressed, and bears the suffering comparatively well, with perhaps only faint groans and whines. Otherwise is perfectly rational and will tell you all about how the accident occurred. As a rule, no urine has been passed since, and catheterization is sometimes negative. In about five or six hours an apathetic state supervenes with yawning and deep sighs, often with deep inspirations and hiccough and then vomiting. Rapidly following this there is marked restlessness, confusion, clonic convulsions, and finally absolute insensibility. Noisy delirium gives place to a comatose state or the coma immediately follows

the former apathy. The respirations are rapid and shallow, the pulse frequent and irregular, and within twenty-four or forty eight hours death ensues, either in the midst of the noisy delirium or during the comatose condition. These symptoms may be prolonged, or even delayed, for several days, and then come on in rapid succession.

The question naturally arises, what is the cause of death? The generally-accepted theory now is nervous shock, and it undoubtedly plays the greatest part. If the patient survives the first stage, and time is allowed for inflammatory reaction to set in before the fatal symptoms appear, then it would seem that death was due to the general intoxication. Even if the injury was not of sufficient magnitude to cause the above train of symptoms, death may occur later on from an intercurrent, pneumonia, Bright's, erysipelas, pyemia, etc., or from exhaustion. Therefore, what can we say in regard to prognosis?

In the first place it certainly must depend upon the intensity and extent of the local lesion. In burns of the first and second degree it is generally favorable, but is always somewhat doubtful if the latter is extensive or affects a delicate individual. Those of the third degree are always of serious importance. It has been noticed that in the adult, if more than two-thirds of the surface is involved in a burn of the first degree, life is usually destroyed, while if one-third of the surface is burned to the second or third degree, death will almost inevitably result. Many and varied have been the methods of treatment suggested and advised for these injuries; from the cook's dredger to complicated germicide mixtures, the underlying principle has been the same, namely, to prevent mechanical irritation of the surface of a hypersensitive wound and allow granulation to go on unhampered. The commonest and most dangerous source of irritation to a burn is infection. For a long time suppuration was considered inevitable, and very little was done to prevent it. The surgeon should bear in mind the necessity of early aseptic and antiseptic measures. A burn is a wound and demands as careful attention as any other surgical condition. The earlier a burn can be dressed the better will be the result.

Our attention should first be directed to the alleviation of the pain. In burns of the first degree this may best be accomplished by dusting the parts with some alkaline powder or by lead water compresses, collodion, etc. This is about all that is needed. When the burn is of the second or third degree, it becomes a more serious proposition. Of the household remedies it is sufficient to say that they should not be used. Friends would do best by the patient and assist the surgeon if they would confine their efforts to carefully cutting away whatever clothing was loose about the burn, wrapping a piece of oiled or wax paper, such as florists use, around the wound and leave it alone. Upon removing the oiled paper protective, with scissors and forceps cut away all shreds of burned clothing remaining. Sterile puncture of the blisters at their

most dependent parts relieves the sensation of tension, but wherever possible the covering of the blister should be preserved. With care cut away the greater part of the charred subcutaneous tissue, an anæsthetic being sometimes allowable if it does not increase shock. All of the burned tissue will not be removed at one dressing, inflammation assists in the removal.

In selecting an application for a burn, two principles are involved; the agent must cause no irritation and must be antiseptic. Having cleaned the surrounding skin, irrigate it with a 1-1000 bichloride or a 3 per cent. carbolic solution, and syringe the surface of the burn with hydrogen peroxide (one part to six of water). The danger from the use of poisonous antiseptics should ever be borne in mind. When the burn is at all extensive, one of the best protective dressings is rubber tissue in strips about one-quarter to one-half inch wide, these applied all over its surface and well over the edges to sound skin; then fluffed sterile gauze and bandage. When granulation is well under way, skin-grafting after Thiersch's method may be used.

Would like to call especial attention to the water bath of Hebra for extensive burns. All the trouble to the attendants and the pain of changing dressings is done away with. Cleanliness is promoted and healing favored. The patient lies and moves at will. It is not as practical perhaps as other methods, but in burns covering a large surface it is certainly worthy of consideration.

For burns of limited extent a protective dressing, such as carron oil, olive oil, white of an egg, ichthyol (2 per cent.), resorcin, etc., on pieces of gauze will be found of service.

Picric acid in various solutions has been advised as an early treatment for burns before granulation commences; it is said to deaden pain. For some time past I have been very partial to a combination of alum 15 per cent., (non-irritating), carbolic acid 2 per cent., and ichthyol 5 per cent., in a petrolatum base. It is one of the best dressings for burns of any degree that I have ever used, and when considering the splendid results I have had with it, I feel free to recommend it most earnestly.

Many kinds of dressings have been advocated, but no matter what the dressing is, do not change frequently unless special indications exist demanding it; the less often the better.

I am opposed to dusting powders of all kinds, when the burn is beyond the first degree, because they are as foreign bodies to a burn, and prove their irritant properties by the amount of discharge they cause. Secure protection for the granulations forming over a burned area, and we will obtain a perfectly-healed wound with no danger of distortion of the scar or loss of function from contraction.

The constitutional treatment consists of supporting measures and pain-relievers.

DISCUSSION.

DR. BLITZ: Dr. Turner Anderson recommends the use of flour. The best results I have obtained were from the use of picric acid, two to five per cent. No scar. I believe the danger is within about forty-eight hours after the injury. Here it is due to pneumonia, if the kidneys act normally. By excluding air, the pain is relieved.

DR. SIMRALL ANDERSON: The main consideration is to exclude air. I saw a patient treated recently by keeping in water bath and there was no pain after treatment was begun. I have never seen a burn which didn't result in pus formation. I like an ointment of alum, carbolic acid, and ichthyol for local use. I have not gotten good results from the use of picric acid.

DR. RUSSMAN: I don't agree with the essayist in cutting away the charred tissue. I use a combination of alum, carbolic acid, and ichthyol. Change dressing in eight hours.

DR. BARNETT: I have used every dressing that I have ever heard of, but prefer the following: Ichthyol, starch, lime water, and oxide of zinc. Where the pain is severe I use orthoform and vaseline, for two or three days and then the other combination.

DR. HOFFMAN: I have gotten best results with picric acid. Have seen cases given an anesthetic, the surface scrubbed with green soap and then treated as simple wound.

DR. MEYERS: I think it is bad surgery to clean any burn. Dr. A. M. Vance advises never to clean them unless they contain sawdust. By scrubbing a burn we remove the clots, which have formed, and thus infection can result from absorbtion.

DR. LEO BLOCK: I use picric acid, sat. solution on cotton. By closely watching the kidneys, uremia may be avoided.

DR. BIZOT: A burn is a severe condition. Treat as in any other condition of shock. Morphine hypodermatically. Let nature remove the necrotic tissue. I treated case of a man, burned from the nipple line up. One ear burned off, one eye out. Kept carbolic and saline solution irrigations constantly applied. This man recovered.

DR. RICHARDSON: The question of prognosis is very important, a burn at first appearing simple often becoming serious. My results with picric acid have not been good, pain, severe and constant, being complained of.

DR. VAN ZANDT (*closing*): I wish to thank you for the thorough discussion. Use morphine if exclusion of air does not relieve the pain. I have gotten excellent results from the use of the combination of alum, carbolic acid, and ichthyol. I used this on a severe burn of the palm of hand, changing the dressing every half hour for five hours, with very happy results. I have had no good results with picric acid. I don't believe in scrubbing. Danger from antiseptic solutions is from absorbtion. Don't change dressings too frequently.

HERNIA, ITS COMPLICATIONS AND TREATMENT.

BY L. G. BOWERS, M. D., RICHMOND, IND.

AS indicated by the title, this paper covers only the complications of hernia and the treatment of these. The most frequent complications of hernia may be divided into irreducibility, inflammation, obstruction, and strangulation, followed by gangrene.

* Read at Louisville Medical College Alumni Association Meeting, April — 1905.

An irreducible hernia is one whose contents cannot be reduced or returned into the abdomen. This term irreducibility is only a comparative one, for a hernia may be irreducible at one time and reducible at another; or, again, a part of the contents of the sac may be irreducible and part reducible.

In an irreducible hernia there is no inflammation, strangulation, nor interference with the blood supply, or, we might say, no abnormal condition, except that it cannot be reduced.

The variety of hernias which are most commonly found in this class are: First, the femoral; second, umbilical; and last, the inguinal. It behooves us to give more consideration to an irreducible femoral hernia than we would to an umbilical or inguinal, because there are about twice as many femoral hernias which are not reducible as umbilical, and five times as many umbilical as inguinal.

The cause of irreducibility of a hernia may be merely the contraction of the tissue through which the neck of the sac passes, preventing the contents above from being returned; or, again, it may be due to external pressure, which will lead to atrophy of that part of the contents which occupies the neck of the sac. Another very frequent cause is the thickening and contraction of the peritoneum forming the neck of sac. In acute cases there may be an hour-glass contraction occurring at the superficial ring. And one of the most frequent causes is increase of the bulk of the contents of the hernia sac after they have passed out. Such thickening is most commonly in the omentum. That is, there is a tendency to the deposition of fatty tissue in its contents, and the size will consequently become greater. Or we may have a development of fibrous tissue, the outcome of chronic congestion. Adhesions may form, and thus prevent return, and it then becomes an inflamed hernia.

In all hernias in which the contents of the sac are irreducible, omentum is usually its chief component. After this we are most likely to find large intestine and then small intestine.

An inflamed hernia may merely be a local peritonitis when it is the sac wall which is chiefly inflamed, or the contents of sac may also be involved in the inflammation. The inflammation may be caused by external injury, by the improper fitting of a truss, or where a truss had been applied without reduction. One of the chief causes is a too severe attempt at taxis in trying to reduce the sac's contents. It is always a matter of regret, upon being called to see a patient, to find that he has become very tender and really bruised by too prolonged effort at taxis. It is not an uncommon thing for the doctor to say, "I did my very best to reduce this hernia and have failed. I have worked hard for an hour or two on it without success." We can nearly always be safe in predicting that upon opening the sac a dark gut with adhesions will present itself. I believe that if we could see the results following these extreme efforts at taxis a few times, we would desist sooner than we do. If an adult pa-

tient who has had a hernia for a number of years has failed to reduce it, it is not usually possible for the physician to do more for him without a sedative or anæsthetic.

An obstructed hernia is one which contains intestine, its lumen being obstructed, but there is no interference with its circulation. Obstruction may occur in any hernia, but it is more common in the irreducible. The material usually causing the obstruction of the lumen of the intestine is firm feces; occasionally, however, intestinal gases, undigested foods, etc.

In this class of hernias we believe the umbilical is more frequently obstructed than in the others, most likely due to the fact that they more often contain large intestine. Sometimes it may be that an irreducible hernia is changed to an obstructive hernia by the giving of enemas.

We believe, if there is no other reason why we should not give an enema, that this is a sufficient one. Upon giving an enema to a patient having an irreducible hernia, we create a peristalsis and an onward flow of the bowel contents and under this vermicular motion and pressure we may force some of its contents through the narrow mesh of the constriction, which will not return for the lack of the same force in the obstructed portion.

The most important complication from the standpoint of urgency of treatment is the strangulated hernia. We may define this as one which contains intestine in which the lumen and blood vessels are obstructed by pressure from without. As a consequence of too great a delay in the proper treatment, this will result in irreparable damage to the gut itself. In this condition there is always a hernial sac with a narrow neck, through which by force a loop or knuckle of the intestine has been pushed. Usually in this condition the bowel is either kinked or twisted upon itself. The ring may be inelastic, so much so that I have found it so rigid in some cases that it was next to impossible to force the finger through the opening into the abdominal cavity before nicking the ring. One can readily see how quickly there may be very great destruction done to the gut. In others the ring will seem to have a very small opening, but strong and elastic, and acts upon the gut the same way as putting a rubber ligature around the limb.

It is not always gut which is strangulated. I have within a year and a half seen two cases of strangulation, in one of which was a Meckels diverticulum in the sac, and in the other was a vermiform appendix, which upon removal measured ten inches in length. The diverticulum was not diagnosed as being the contents until the operation, but we had predicted from the size of the tumor and from the symptoms which it gave of appendicitis that the probabilities were that the appendix was in the sac, and upon operating, as before stated, we found a very long appendix with a short mesentery only reaching about one-third of the way to its distal extremity, giving this gut a wide range of movement. Upon examination we found that probably about three inches of the appendix

had passed down the hernial canal. The worst complication of this class of hernia is gangrene. This may develop early in very tight constrictions. I saw one case in a small child where gangrene was present in twelve hours after development of obstruction. In this case the gut passed through a slit in the mesentery.

Treatment.—The treatment may be divided into two methods, reduction by taxis, and proper fitting of a truss, or reduction by operation and the proper disposal of sac and closure of the canal. We believe that there is no condition which is more poorly treated and overtreated than a reducible or irreducible hernia. Ninety-nine times out of one hundred when a physician is called to treat a case of irreducible hernia, if in an adult, he finds that they have already used taxis, and we will have to admit that usually the possessor of a hernia becomes an expert at returning them. As a consequence, the doctor is not called until the patient has failed, and as a result of his manipulation he has local congestion and vomiting due to the obstruction. We believe that the average physician who goes in and, so to speak, pulls off his coat and goes to work trying to reduce it without trying to allay some of these local and general conditions makes a very great mistake and is the cause of some failures where more moderate and considerate treatment might be the means of success. It seems to me that the more rational way to treat all these cases would be to give the patient a large hypodermic of morphia. This will quiet his pain and probably allay his nausea and vomiting. Then place an ice-bag or heat over the hernia, which will tend to allay the inflammation and to anæsthetize the part to a slight degree if ice has been used. Elevate the foot of the bed and let him rest for half an hour or an hour, until he gets the desired effect from this preliminary treatment. The morphia will probably also allay his nervousness, and may relax the neck of the sac to a degree, and will relax his entire muscular system so that you have a very much better chance of returning the hernia than you would under those conditions which we usually see upon our approach to a case. We may then apply gentle taxis and with very little effort in many cases reduce the hernia without the danger of causing an inflammation, which may cause adhesions, followed by obstruction, even if otherwise successful.

Then, if we have failed by these methods, if possible, before giving an anæsthetic, the patient should have everything ready to operate, and then, if the hernia cannot be reduced, we can operate at once with same anæsthesia. I believe that we are not overestimating this method when we say that in 90 per cent. of those cases which cannot be reduced by the above method that it will be necessary to operate for their relief.

The method of procedure in the operative treatment of hernia is as varied as the operators.

We will first consider a few of the general precautions which should be observed in operating on the various kinds of hernia.

A point which should always be observed in the treatment of inflamed hernia is that, after opening the sac, we should cleanse the part before nicking the ring. It will be much easier to relieve the constrictions at the ring if the gut is pulled forward a little, then we can return the gut through a smaller opening of the ring, which should be enlarged the least possible.

In disposing of the contents of the sac we believe it is always a good rule to ligate and cut away all omentum which is contained therein, for two reasons: One is that the omentum is congested and may cause adhesions if returned into the abdomen. Second, if it has been in the canal very long, it will considerably increase the intra-abdominal pressure, and as a consequence, especially in umbilical hernias, the patient is more likely to develop a congestion of the lung, which occasionally is a fatal complication of the hermiaotomy.

Upon the return of the contents within the cavity, the operator should always sweep his finger in the abdominal cavity around the ring to see that there are no adhesions of the gut or omentum left within to cause an obstruction later on.

I can look back with regret to one case in which I failed to observe the latter precaution, and as a result I had to perform a second operation some two months later on the patient for obstruction, which probably would not have been necessary if I had observed this point.

The most dreaded complication is, of course, gangrene of the gut. In such conditions we should be sure to anastomose well beyond the gangrenous portion. I prefer the Murphy button, because it holds the gut secure and is rapid. In case of a nipped piece of gut the operator may infold it with a Lembert suture.

In all cases of strangulated hernia, on account of the conditions of the tissues inflamed by delay, we should always introduce a drain in the lower edge of the wound for twenty-four hours. This will many times prevent an infection which we would otherwise have.

In inguinal hernias we usually prefer the method of Bassini, with the modification or addition of the overlapping of the deep fascia, by using three or four mattress sutures and drawing the upper portion of the fascia down about an inch or such a matter, until it becomes tense under the lower part of the fascia. In this way we do away with the lax condition of the deep fascia which we will always find in a hernia of any size. We believe it to be reasonable to assume that the fascia has more to do with the preservation of the wall than any of the tissue around the hernial canal.

In the treatment of umbilical hernia, we believe that this has been pretty well settled by the success which has been attained by the Mayos in the Mayo operation. I have operated on but one patient by this method. The patient was a woman weighing about three hundred pounds. The result was most satisfactory.

Of all the hernias the femoral gives me the greatest concern as to surgical treatment, on account of the close proximity of important blood vessels and nerves, which does not give the wide latitude to secure tissue for its proper closure, as in the other hernias. It is my experience that ligation of the sac by making a purse-string with a silk ligature and leaving both ends long and then rethreading each end and sewing this sac to the Pouparts ligament with both threads, and then tying the two ends together again over the ligament, then closing the rest of the wound with a through-and-through suture, has given very good results.

There could be much more said about the treatment of hernias, but we will leave this for the discussion.

FISSURE IN ANO.

BY E. O. WITHERSPOON, M. D.

HAVING decided to write a paper for your journal, as per your request, I have selected a subject which, from the standpoint of the specialist, is of the greatest importance both to the patient and general practitioner. To the patient, because, whereas it is one of the most common troubles, it is one of those insidious things to which he does not give the attention which is the "stitch in time," but patiently grins and bears until patience ceases to be a virtue, and at last he is forced to do what he should have done early; namely, see the doctor for relief. As for the general practitioner, he is very frequently placed in an unjust position by the patient not submitting to a proper examination through false sense of modesty. The patient, thinking of the early symptoms only as an annoyance, not allowing the doctor to make an examination. The doctor too frequently supposes the case to be one of pruritus and treats it accordingly. Again, an examination may be made, and, unless it is made very carefully, a fissure, in its early stages, may be overlooked entirely. An examination which is not a careful examination is no examination.

The sedentary habits of life of such a large proportion of our people tends to produce the pre-eminent cause of this condition. It is more frequent in the cities than in the country, and is more frequent in women than in men. Very rarely occurs in children, although there are some cases reported.

Fissure in ano is frequently confused with ulceration of the rectum, but I do not see how the two conditions can be confused, as a fissure proper could not exist within the rectum. Then we would make a definition like this, "Fissure in ano is a longitudinal crack in the mucous membrane located at the verge of the anus." A fissure may, if improperly cared for and because of constant irritation, take on pathological changes and become an ulcer.

The chief cause is mechanical, from the passage of hard particles of fecal matter, the introduction of hard or rough substances into the rectum, as, for instance, the introduction of a tube the surface of which has been cracked, and improper deturgents. The condition does not exist primarily in the muscle, but in the mucous membrane. The spasmodic contractions of the sphincter is the result and not the cause of fissure. Exception must be made to this last part of the statement, however, when we have a fissure as the result of forcing feces through a sphincter contracted by some reflex cause, as an irritable sphincter produced by reflex from the urethra, prostate gland, uterine displacement, retention of urine, and polypi.

The symptoms of fissure are very few, and may be divided into two stages. The first stage, beginning when the break in mucous membrane is made, lasting until the spasmodic contraction of the sphincter muscle begins; has very few symptoms, an itching or burning sensation being about the only complaints of the patient. In the second stage, after spasmodic contraction of the muscle has begun to occur, there is great pain on defecation, continuing for some time after defecation is completed. This pain is a sharp, cutting, or tearing pain, increasing for several minutes, then subsiding into a dull ache. It is generally at this stage the patient seeks relief of the specialist. Fissure sometimes occurs multiple, but most generally only one is present. The most frequent complications of fissure are hemorrhoids, the fissure being the complication; ulceration of the rectum, polypi, prolapse of the uterus, and enlarge prostate are very frequently associated with fissure.

To make a diagnosis, the patient should be placed on the table, and a thorough examination made as to the cause of fissure. There appears as the first thing noticed, if the fissure is of long standing, a small tumor, "the sentinal pile." This is a tumor, or enlarged piece of skin, caused by plastic infiltration. The fissure will be found in the folds at the anal orifice just behind the "sentinal pile," after spreading the opening with the finger. For further examination a proper speculum is preferable, as it brings into view the rectum proper, and any cause lying therein can be ascertained. The finger is not reliable as an examining agent if the fissure is not in sight, or if the fissure is of recent occurrence, as it may exist and give no sensation to the finger as the finger passes over it. The fissure will not be felt unless it is of long standing and has infiltrated.

The prognosis of fissure is a cure after the cause is removed and the proper treatment applied.

The treatment may be divided into palliative and operative. Palliative treatment is slow and tedious, and should never be used except in those cases where anesthesia, required for an operation, is positively contra indicated. However, these conditions are sometimes met with and we have to do the best we can under the circumstances. Nitrate of

silver solution painted on the fissure, after it has been cleansed with water and hydrogen peroxide, is a very good agent to stimulate granulations. Carbolic acid painted on the surface of the fissure is also of benefit, unless used in too great a quantity. It is my opinion that salves and ointments are of little benefit. Iodoform is objectionable on account of its disagreeable odor. Burnt alum, hydrarg. chlor. mite, ferri sulp., soda salicylate, bismuth subnit., stearate of zinc, all in powder form, have been recommended. I have had some very good results from icthyol or icthyol and glycerine, also balsam of peru. Both are applied on gauze and placed in the fissure after cleansing with water and hydrogen dioxide.

The pain can be relieved by hot or cold applications or the application of cocaine locally. The patient should be instructed to keep the bowels soft so as to prevent any scratching of the fissure on defecation, and the deturgent used should be of soft material. The anus should be bathed in warm water after each stool and dressings applied. The bowels should move every day, and any hardness should be overcome with an enema if necessary. However, there are a great many cases which will resist palliative treatment altogether. The operation of divulsion should be then resorted to without anesthetic.

Operations—I do not like the operations of division of the sphincter, or of excision of the fissure as they are more trouble and longer in healing, and may leave the very condition we are trying to overcome. Dilatation, forceable, under an anesthetic; or gradual, if the anesthetic be contra indicated, seems the treatment par excellence. The operation should be performed as follows:

The patient should be properly prepared, and great care should be given to the entire intestinal tract, including the field of operation. As only by scrupulous attention to these details can proper results be expected. After the patient is thoroughly anesthetized, introduce a speculum and gradually dilate, taking care not to make the dilatation too sudden. Remove the speculum and, introducing the index and middle fingers of each hand, gently knead the muscle until it becomes relaxed or patulus, at the same time curetting the fissure by rubbing it with the finger. A light dressing of antiseptic gauze and a T bandge left on for a few days, changing the dressing every day and cleansing the wound with peroxide of hydrogen and warm water, and touching the ulcer with silver nitrate every third day, if necessary, will cure the most obstinate cases.

Gradual dilatation should be practiced where there is a contraindication for the anesthetic, and after palliative treatment has failed. Bougies should be used, beginning with small and increasing in size until a No. 12 can be easily introduced. This takes twelve days or two weeks to effectually dilate the sphincter. When rest is obtained, one or two applications of silver nitrate or balsam of peru will cure the fissure.

THE
AMERICAN PRACTITIONER & NEWS.

"NEC TENUI PENNÂ."

F. W. SAMUEL, A. M., M. D., A. D. WILLMOTH, M. D., } EDITORS. S. B. HAYS, M. D., MANAGING EDITOR.

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Editorial.

Alcohol as a Food. No drug probably has been more widely used both as drug or as food than alcohol, and none about which there has been so much difference of opinion as to the relative merits. These differences exist both with the practitioner and investigator. Lately Dr. Goddard has published the results of some very careful experiments performed upon dogs. Which research was not for the purpose of testing its therapeutic value, but to find its true value as a food.

In *Merck's Archives*, of December, 1904, the following expression of the subject seems to bear out the assertion of those who believe that moderate use of alcohol is not only a food, but to have decided beneficial effect upon the human economy.

"It is well known that Liebig classed ethyl alcohol as a carbohydrate food, and this opinion was not subjected to doubt until 1860, when certain experiments by Lallemand and others apparently demonstrated that alcohol was eliminated from the system in an entirely unchanged form, and could therefore, of course, not be considered a food under any circumstances. Later experiments by Binz and others have, however, demonstrated the faultiness of Lallemand's experiments. The chief objection is that in their experiments Lallemand, Perrin, and others administered alcohol in excessive doses and were therefore able to recover alcohol in the urine. If we give an excess of glucose, we shall find sugar in the urine, but nevertheless we know that glucose is a positive and excellent food. Binz and his pupils, who experimented only with

small quantities of alcohol, were able to recover only 2 to 4 ger cent. of the alcohol ingested. They therefore concluded that the difference, 96 to 98 per cent., is retained by and oxidized in the system, and that alcohol is therefore a true food.

"Dr. Goddard's experiments seem to corroborate Binz's conclusions. According to these experiments, when alcohol is administered to an animal to the amount of 1-750 of its body weight, a little more than 5 per cent. of that amount is excreted; and since no aldehyde or other alcohol derivatives are found in the expired air, in the urine, in the blood, or in any part of the body of the animal after death, it is fair to conclude that the remainder—nearly 95 per cent.—is made use of as food. Dr. Goddard, therefore, sums up by saying that in small doses only alcohol is most undoubtedly a food; but in large doses—as when these are taken about 50 per cent. is excreted from the system—it cannot be considered a food in the proper sense of that term.

"These researches show also that here, as in most instances, there is a very wide difference between moderate use and abuse:"

How to Obtain a Certificate to Practice in Kentucky.

The regular examinations will be held at the School Board Building, corner Walnut and Center streets, Louisville, beginning on the fourth Tuesday in April and October in each year. No special examinations will be held under any circumstances, and the law makes no provision for temporary certificates.

An examination will be required of all applicants, except those whose names are on file in this office as *bona fide* matriculants in recognized schools located in this State upon February 1, 1904, who shall have graduated from one of such schools prior to September 1, 1907, and who make application to this board prior to January 1, 1908.

The subjects for such examinations will be anatomy, including histology and embryology, physiology, pathology, chemistry, surgery, obstetrics, gynecology, bacteriology, hygiene, ophthalmology, otology, medical jurisprudence, mental and nervous diseases, etiology and physical diagnosis. The law requires a general average of 70, and a grade of not less than 60 in any branch.

The examination will begin at 9 A. M., on the first day, and at 8 A. M. on the two succeeding days. All applicants must be present from the beginning of the first examination and punctually for all others. The examination will be secret, and each applicant will be assigned a number by which alone he or she will be known until the papers have been graded and the success or failure fully determined. The Board will furnish paper for the examination, but applicants will be expected to provide themselves with fountain pens, or with pen and ink.

Only bona fide residents of this State and graduates of recognized colleges located within the United States will be admitted to examination. Applications upon forms prescribed by the Board, attested by some officer authorized to administer oaths and endorsed by the medical referee of the county in which the applicant resides, accompanied by the fee of ten dollars, must be on file in this office at least ten days prior to the date fixed for the examination. Blanks will be furnished by the referee, and the diploma must be exhibited to him.

The application must be accompanied by an unmounted photograph of the applicant, on the reverse side of which must be his or her full signature, duly attested, under the seal of some official of this State authorized to administer oaths.

Applicants are warned not to "practice or to treat or attempt to treat any sick or afflicted person by any system or method whatsoever" until a certificate has been received and recorded in the office of the County Clerk in which he or she resides.

Itinerant and advertising doctors are not eligible for examination, and are not permitted to practice in this State, and special attention is called to the affidavit clause upon these subjects in the application blank.

All applications should be sent and correspondence directed to

THE STATE BOARD OF HEALTH,

Bowling Green, Ky.

There seems to be quite a crowd from Louisville to go to the annual meeting of the American Medical Association at Portland, Oregon. Dr. McMurtry makes the fourth President of the Association from Louisville.

The partnership hitherto existing between Dr. J. M. Matthews and Dr. Bernard Asman was dissolved May 1st of this year. Each continues to office as heretofore in the Hast Building, 713 Fourth Avenue, Louisville.

DR. EDWARD SPEIDEL has moved his offices, and announces his present location at 713 and 715 Second Street, Louisville.

The Louisville Clinical Society has suspended its meetings for the summer months.

Recent Progress in Medical Science.

GYNECOLOGY.

UNDER THE CHARGE OF

CHAS. W. HIBBITT, M. D.

Associate Professor of Gynecology, Medical Department, Kentucky University.

OBSTETRICS.

UNDER THE CHARGE OF

S. B. HAYS, M. D.

Instructor of Gynecology, Kentucky School of Medicine.

GYNECOLOGY.

Treatment of Complete Uterine and Vaginal Prolapse.—F. H. Wiggin, M. D. (*Journal A. M. A.*, Dec. 1904) asserts that operator's poor results are due to his failure to recognize the fact that the vaginal wall in these cases is a hernial sac, and the removal of a portion of the vaginal walls, or even the uterus itself, will not correct the greatest difficulty; namely, the abnormal position of the small intestines.

His first line of treatment is to obliterate the inverted and stretched vaginal wall, and then restore the damaged perineal structures and anterior vaginal wall to as nearly normal as possible. He advises local treatment until all ulcerated parts are healed. After opening the abdomen, a needle carrying large size kangaroo tendon is inserted in the fibers of the uterus at the point of its attachment to the round ligament, and carried down the broad ligament in the form of a purse-string suture, and back again to the point of entrance.

Now traction is made on the two ends of the suture, and thus the broad ligament is folded up and drawn together. The same is repeated on the opposite side. Now the pelvic floor is repaired, and the anterior vaginal wall is reduced in size. The operator claims excellent results from this method.

The Result of Ventral Suspension of the Uterus at the Johns Hopkins Hospital.—G. R. Holden, M. D. (*Amer. Jour. of Obstetrics and Diseases of Women*, April, 1905), after securing the more or less complete post-graduate history of 445 cases out of 900 operated on at Johns Hopkins Hospital from 1892 to 1903, gives a most exhaustive report as to the results, and concludes:

1. Successful symptomatic results after simple suspension may be expected in about 60 per cent. of all cases in which the retroposition is the sole abnormal condition. But the prognosis is somewhat better in retroposition associated with relaxed vaginal outlet, provided the outlet also be repaired.

2. Fifty to sixty per cent. of those dysmenorrhea cases in which retroposition of the uterus is the sole abnormal condition are relieved by suspension of the uterus.

3. The great majority of patients who have had the suspension operation performed have no adverse symptoms during pregnancy or labor. The most frequent adverse symptom which can be referred to the operation is abdominal pain during pregnancy.

4. Recurrence of the retroposition may occur after labor. If labor does not intervene, the percentage of recurrences is not more than 5 per cent.

Bathing During the Menstrual Period.—J. C. Edgar, M. D. (*Amer. Jour. of Obstetrics and Diseases of Women*) says that all forms of bathing during menstrual period can be acquired by caution and gentle progression; but surf-bathing, where the body remains chilled for some time, should always be excluded.

A daily tepid sponge bath (85° to 90° F.) during the menstrual period is not only harmless, but demanded. In most women the habit of using the tepid shower or tub-bath, after the first day or two of the flow, can with safety be acquired.

Principles Involved in Primary and Secondary Repair of the Pelvic Floor.—James H. Burtenshaw, M. D. (*Journal of A. M. A.*, Dec. 3, 1904) attributes the failures attending the primary operation to the operator who fails to appreciate the extent and direction of the subcutaneous tear; failure to approximate edges of the torn muscle and fascia, and an overstretching of the pelvic floor.

He speaks of the extreme difficulty at times of recognizing a subcutaneous separation of the levators fascia and approximating their torn edges. He also claims that the larger number of secondary operations accomplish little other than narrowing the canal at the outlet, never bringing the torn muscles and fascia together.

There he favors the Hegar operation, in which the denudation is carried well beyond the rectocele, and the sutures are sweepingly inserted across the vagina. Concluding, he states, failure to obtain satisfactory results may be attributed to improper denudation, incorrect suturing, or to too low vitality of the patient.

Hematoma of the Vulva and the Vagina.—J. S. Hill, of New York (*N. Y. Med. Jour.*, April 22), comments on the frequent occurrence of hematoma between the births of twins.

The condition is brought about by the injuries received during the birth of the first child. The second child's delivery is often impeded by the tumor. When rupture occurs in such cases, we are confronted with a simple case of hemorrhage, which we can treat independently. But the appearance of a vaginal hematoma in second stage of labor is a

matter of gravity. Vaginal hematoma in the course of the expulsive stage of labor presents dangers parallel to those of placenta prævia.

Treatment of hematoma must be expectant.

The Early Diagnosis of Uterine Cancer.—Geo. Gellhorn, M. D. (*St. Louis Courier of Medicine*), says the responsibility for the timely diagnosis of cancer rests with the family physician; that he must recognize the early symptoms and indicate to the patient the appropriate treatment.

Other than the microscope there are a number of factors which we must not neglect. Though heredity in cancer is not established, it must have some consideration. Age has to be noted; also child bearing and injuries sustained during parturition, endometritis, and erosion are noteworthy etiological factors. Hemorrhage other than normal, especially post-climacteric hemorrhage is suspicious.

Bladder involvement of obscure origin in older patients should call for examination. The diagnosis of carcinoma of the vaginal portion is comparatively easy on account of the greater accessibility to sight and touch. The diagnosis of cancer of the body is accomplished by the curette and microscope.

Early Diagnostic Signs of Cancer of Uterus.—F. Blume, M. D. (*Penn. Med. Jour.*, Feb., 1905), says ignorance, superstition, indifference, and negligence are the prime factors which cause women to disregard the early manifestations of uterine cancer. Favorable results can be obtained only by an early operation after an early diagnosis.

He suggests preventive measures as laid down by Kelly:

1. To see each patient two to three months after confinement and record condition of pelvic structures.

2. Extensive cervical laceration with infiltrated, everted lips, and endo-cervical catarrh should be operated on.

3. Every woman with cervical tear that does not present a healthy appearance should be examined once a year for ten years.

4. All women, especially those in the forties, who suffer from an unusual or an atypical uterine hemorrhage, should at once seek competent medical advice, and the physician should not rest until he has definitely ascertained its source.

Were these rules observed, cancer of uterus in its earliest stages, being local and easily accessible, could be eradicated.

The Effect of Gonorrhea on the Female Generative Organs.—Joseph Taber Johnson, M. D. (*Journal A. M. A.*, March 11, 1905), says gonorrhea overshadows syphilis in importance as a social peril, on account of its tendency to invade the uterus and adnexa, with results often dangerous to life and destruction of the reproductive capacity of the woman.

A gonorrheal salpingitis usually destroys the epithelial lining of the

tubes and so cripples the ovary as to render conception almost impossible. While we are accustomed to look on syphilis as the most active cause of depopulation, gonorrhea is in reality a much more powerful factor. This is not surprising in view of the fact that it primarily and specifically affects the organs of generation.

Specific infection frequently ascends to the pelvic organs after parturition when this infection only existed below the internal os uteri previous to labor. Many victims have proven their conceptional capacity by giving birth to one child, but remaining semi-invalids ever after as a result of the ascending infection. The sterility of the gonorrheic woman is thus relative rather than absolute; it is in the German phrase a one-child sterility.

The great number of women operated on for gonorrheal appendages, pus collections, and inflammatory adhesions does not by any means represent the amount of invalidism and suffering caused by this infection. Against what other disease can be brought such an array of charges and about which so little is being done to prevent or eradicate it?

OBSTETRICS.

New Method for Immediate Repair of Lacerated Perineum.—McGirk (*American Medicine*, Jan. 21, 1905) says that œdema is the only obstacle to immediate repair of a lacerated perineum, and gives the following method that eliminates the difficulty encountered by such œdema. This, he states, is useless in early cervical repair, as a torn cervix makes an excellent attempt at repair. He only (immediately) introduces suture to control hemorrhage. He also adds that a single stretching with fingers during pain will save many a tear. His new immediate method for perineum is as follows:

"After thorough sterilization of the parts, I introduce my sutures of silkworm-gut from below upward, as the first suture thus introduced acts as a tractor to bring the deeper tissues into view, thus facilitating the introduction of the second suture. After the introduction of all sutures, I pick up the lowest suture, threading it with from four to six perforated shot, depending on the amount of œdema present or expected. I then press the distal shot. I continue in this manner until all the sutures are threaded, always bearing in mind their exerting exact approximation of all tissues. I now cut close all unused silkworm-gut beyond the compressed shot, so as to avoid irritation from protruding ends.

"The parts are again thoroughly cleansed, and a light dressing of sterile gauze applied, which is changed often, and at each change the wound is cleansed with 1-1000 mercuric chloride solution, and the nurse is instructed to watch for the increase or subsidence of the œdema. Should it be found that in the course of a few hours the œdema is still increasing, I remove the proximal shot with Kuechenmeister's tenaculum scissors (I have had the tenaculum point of a pair cut down a half)

to facilitate cutting in a limited area. If the œdema continues to increase, I again remove the proximal shot; it is seldom that a third shot will have to be removed. On the other hand, if after the operation I am notified that the œdem is subsiding, I shove up all and compress the most distal shot which I have left uncompressed, and as the œdema subsides I continue to compress the most distal uncompressed shot.

"In this manner I have been able not only to keep the subcutaneous surface, but the underlying tissues as well, in excellent approximation."

Twenty Years' Experience with Manual Dilation of the Os and Cervix Uteri to Effect Immediate Delivery in the Latter Months of Pregnancy.—P. A. Harris, after twenty years' use of his method of manual dilatation of the cervix in obstetrical cases, details the results obtained, and some cautions which experience has shown necessary. He also describes a simple multilever dilator, the application of which offers some advantages over the manual procedure. The general conclusion arrived at may be abridged as follows: The strain upon the cervical ring should not be too strong, and as nearly equable and constant as possible. The greatest strain, possibly fifteen to twenty pounds, is needful in acquiring the first four or five inches of dilatation. As the cervical ring enlarges beyond this point, the strain should be gradually diminished, for it is at this time that the danger of producing lacerations becomes more serious. Fifty minutes may be taken as the average time required to dilate safely the os and cervix uteri from the size of one's finger to a circumference twelve inches. Twenty-five minutes should be the average time for rupture of the membranes and delivery of the child and placenta. The use of the unaided hand has the advantage that it is always with the operator, but it is inferior to the author's mechanical dilator, because, owing to the inevitable fatigue, its action is more or less irregular, it cannot be sterilized by boiling, the hands must frequently be alternated to rest them, so that twelve or fifteen introductions into the vagina, with loss of time, and some risk of infection, may be necessary; some vaginæ are too small to admit the hand without laceration, and it is difficult to gauge accurately the amount of force being exerted. The instrument is one that the general practitioner might not use very often, but it possesses the advantages of being ample in force, continuous in showing exactly the degree of strain in pounds on the cervix, by means of a dial; it may be boiled, usually requires but a single introduction, and every vagina should admit it without injury. The danger of laceration of the cervix is somewhat less with the instrument than with the hand. The author therefore considers mechanical dilatation with this instrument the preferable method of effecting rapid dilatation, and the construction and method of application of the instrument are shown in nine figures. The paper contains the necessary details of technique required for both mechanical and manual dilatation by the author's methods.—*Medical Record*, December 17, 1904.

Three Cases of Excessive Fetal Development.—J. Rosenberg reports three cases which illustrate the difficulty of diagnosticating oversize of the fetus. If the pelvic diameters are normal, the condition is usually not discovered till labor has been prolonged and attempts to deliver have proved futile. The time for cesarean section has then passed, and the mothers are best served by perforating the dead or moribund child. The only safe and reliable guides are the external and internal pelvic measurements, and if these measurements are normal or approximately so (with hardly any exception) cesarean section is not indicated. Patients with a prior history of abnormal fetal development should not be permitted to go to full term. If not seen until labor has begun, the case should be conducted with extreme care and conservatism. Membranes are preserved until interference has been decided upon, as nothing can be gained by rupturing the waters, but there is increased liability to infection, and version may be made impossible. Sympheseotomy is never indicated, as the slight increase in pelvic diameters is not in proportion to the dangers of the operation. Cesarean section is hardly more dangerous, requires less complicated after-treatment, and abdomen and uterus once opened there is no doubt about our ability to deliver the fetus. In one of the author's cases the fetus, which weighed nearly thirteen pounds, was delivered by version and lived. One other fetus which was unusually difficult to extract, and even after perforation and decapitation required eventration, weighed, minus blood and brains, fourteen pounds. The other fetus, delivered by version and perforation of the aftercoming head, weighed twelve and a half pounds. — *Medical Record*, January 7, 1905.

Hepatic Insufficiency in Pregnancy.—J. Clifton Edgar, New York (*Journal A. M. A.*, April 8), comments on the mortality occurring during pregnancy, aside from known and preventable causes. He has examined the post-mortem findings of women who have died during gestation from toxemia of pregnancy, and he insists on the importance of the study of the symptoms of this condition. Certain women have a predisposition to hepatic insufficiency, and heredity should be considered. The excretions should be carefully examined, the mental state and nervous symptoms should be studied, and the possible periodic exacerbations should be looked for. If the symptoms of toxemia are found, the examination should be still more detailed and thorough, and, if the symptoms should indicate a progressive condition, with structural disease of the liver, the chances are against the patient. He discusses the interruption of pregnancy and the probability of an abnormal puerperium after pregnancy is successfully terminated. He concludes that the preventive treatment of much of the morbidity of pregnancy and of the puerperium depends on an early recognition of autotoxemia as it shows itself in the clinical picture of hepatic insufficiency. No one of large experience can fail to observe that many pregnancies are really

pathologic, and he thinks that the specific toxemia of the condition will soon be generally admitted. There may be more than one toxic condition, in any case, hepatic toxemia should be kept in mind. It is imperative that a woman in this condition should be kept under the observation of the physician.

An Unusual Case of Postpartum Temperature.—Dr. Lewis Gaines, of Atlanta, Ga. (*American Medicine*, Feb. 25, 1905), states that the occurrence of a rise in temperature during the puerperium, is always a suggestive phenomenon, and one not calculated to increase the complacency of the conscientious obstetrician. A temperature above 100.5° persisting longer than twenty-four hours, should be regarded as almost certain evidence of infection, unless strong proof to the contrary is present.

Dr. Gaines very justly criticises the tendency to conceal the result of neglected aseptic precautions behind the scapegoat malaria, or typhoid fever—and that the shield milk fever is growing too transparent to act as a cover.

He reports a case of a well-nourished woman, thirty-three years of age, with all organs feminating perfectly so far as could be ascertained. External palpation showed the child in L. O. A.; pains began at 2 A. M. August 8th, and gradually increased in severity; by 8 P. M. the cervix would barely admit of the little finger. The membranes ruptured August 9th, 8.45 A. M. The pains having become almost unceasing and aggravating. At this time the cervix just admitted with ease the index finger and was very rigid. Toward evening of the same day the patient began to show signs of exhaustion, so she was prepared for artificial delivery; forceps were applied after etherization and a normal child weighing ten pounds was extracted; a second degree perineal tear was unavoidable. In about thirty minutes the placenta was extracted. A hot intra-uterine douche of normal saline was given.

Six hours after delivery the temperature went to 103 F. There was slight abdominal distension, and the fundus was about the level of the umbilicus displaced slightly to the right, but not tender. Twelve hours after the patient was catheterized and 226 CC. of clear urine obtained; which on examination showed a trace of albumen and an occasional hyalin cast, and finally granular casts. Beyond this the urine remained normal throughout the puerperium. The perineal tear healed by first intention. The lochia was somewhat scanty, but absolutely normal in odor and appearance.

Blood examination showed the leucocyte count to range from 8,000 to 15,000. On the first and fourth days patient had a distinct chill, fever going to 105. During the continuance of the fever the patient's symptoms were only those attributable to a prolonged febrile condition. The tongue became dry and the mouth and lips parched. At times the

patient complained bitterly of headache and of muscular pains in the back, as well as of great general weakness. At times there was slight nocturnal delirium. The pulse was extremely irregular, varying from 80 to 130 per minute. The respiration for the first four days of fever was about 26 per minute, went up to 35 per minute, gradually sinking to 25 on the tenth day. The patient gradually regained her strength after subsidence of the fever, and on the twenty-sixth day was discharged in good condition.

Dr. Gaines regrets that it was impossible to obtain a culture from cavity of uterus. The absence of any pulmonary or cardiac involvement. Negative blood examination for plasmodia and leucocytosis leaves the cause of the temperature to some pathologic process not yet fully understood.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, APRIL 4, 1905.

DR. J. R. WATHEN: This specimen that I present to the Society is one of carcinoma of the breast, in a woman fifty-five years of age. The tumor is on the inner side toward the sternum. I present the specimen for two reasons. In the first place the location of the tumor and the involvement of the glands which are to the inner side and not as usually found along the axilla, and also its involvment of the bone causing a necrosia to a certain extent of the sternum.

The next point to which I call attention is the technique of the operation. As you all know the operation for the radical removal of the breast by Halstead is the removal of the pectoralis major and minor muscles and complete dissection of the glands in the axilla. This operation has lately been modified by Dr. Warren, of Boston, and beautifully described and illustrated in the December number of the *Annals of Surgery*. I had occasion to employ this method in this case with success. In Halstead's method we separate the pectoralis major and minor muscles first dissecting down on the tumor and then carry the mass towards the axilla and at last removing the glands in the axilla. In this method it necessitates the handling of the tumor and possibly infecting this area. In the method suggested by Warren we begin in the axilla, first detaching the pectoralis major from the humerus and dividing the pectoralis minor near its insertion and then ligating all the vessels running to the breast and supplying these muscles. By this method there is little hemorrhage

and very little danger of infection. From my experience in this case I believe it is a great advance in dealing with this type of tumor, and a great improvement over Halstead's method.

The second specimen I present to-night is a fibroid tumor of the interstitial and subserous type which was removed by laparotomy. A very interesting feature in connection with this fibroid was a small fibroid which had become intra-ligamentous; it was found in the broad ligament about an inch and a half from the tumor itself. It had no attachment to the tumor and was simply an intra-ligamentous fibroid. There is a question as to where it came from, whether from the non-striated muscle-fibers in the broad ligament or whether it was cast off from the uterus itself. Judging from this specimen I should say that it was cast off from the uterus and I believe that is the accepted pathology.

This third specimen is one of tubercular testicle. I removed this testicle a few days ago. You can see a sinus running through the scrotum. I opened the testicle and slit open the epididymus and curretted a little tubercular foci, and as the tunica vaginalis seemed to be free from tubercular involvment I did no more on the other testicle. All of these patients have recovered.

I have another case which I wish to report but I did not bring the specimen, as most of it was destroyed during the operation. It is an operation for syphilitic prostate. This man was forty-two years of age. He had a prostate much larger than my fist. He gave a syphilitic history and also a gonorrhœal history. I removed this prostate by the perineal method and I found as spoken of by Goodfellow in his reports a gelatinous mass on one side that could be easily hulled out. The other lobe was a dense mass.

This prostate was removed last Friday and on Sunday he was able to get out of bed and could retain his urine several hours. This afternoon when I saw him he was walking about the hospital. and practically in a condition to be discharged to-morrow, showing the prompt recovery of some of these cases. The perineum was closed by suture and a small piece of gauze drain placed in the wound. I reported the case without the specimen. I wish to go on record as reporting a rare case. So far in the literature we find only three. This man gave a clear syphilitic history and had a very large prostate.

DR. MARSHALL: I enjoyed the report, especially of the breast case. I think that the advance is a very satisfactory one and I think it will be beneficial in these amputations. I do not care to speak any further about the others. I would simply like to say in speaking of cancerous conditions that I am opposed to any extensive dissection of the glands and following up the supposed involvments in the deeper tissues. I believe it adds to the danger of the case afterwards.

DR. W. H. WATHEN: In the breast case I would not look for any permanent result because it seems that the involvment was on the sternal

side of the nipple with involvment of the sternum; hence, the chances are that the mediastinal glands are already involved as the lymphatics drain from the inner side of the breast down through the chest into the mediastinal space, and from this source the lymphatics communicate with those of the liver. The chances are if this does not return the patient will finally die of mediastinal involvment or liver involvment.

As to the operation of removing the breast by the surgeon first detaching the pectoral muscles and then dissecting inward, I think it is very manifest that in most cases that is the better operation. I do not believe, however, that it is necessary in every case to open the supraclavicular triangle. You can by dividing the attachments of these muscles get into the axillary space perfectly and reach every gland and see every vessel without danger of injury to the vessels that cannot be controlled. I do not believe in ligating any more vessels than can be avoided. I would leave the vessels as far as I could. In dissections in the axillary space and in removing the glands I use gauze sponging. The gauze picks up the glands and I have removed them from the vessels without any injury at all. No one who has not had experience in dissecting out the axillary space without gauze can imagine the beautiful result attained.

All that I have to say about the other case is that I believe myomatous tumors may develope in the muscle tissue in the broad ligament. It is possible that this tumor may have been extruded from the outer wall of the uterus. While they are usually extruded from the uterus, I believe they may develop and even grow to a large size from the muscular tissue lying in the spaces of the broad ligament, and I am sure I have seen cases where the tumor never had any uterus attachment. Notably one weighing ten pounds removed from the left broad ligment.

DR. WILLMOTH: That is a very beautiful case but I approach an operation for removal of the breast with fear and trembling. I had a case to operate on the other day but it was one of long standing. The other cases are very beautiful.

DR. SAMUEL: These cases are extremely interesting to me. I think Dr. Wathen did quite right in removing the testicle. Of course the result in these tubercular cases is always problematical.

In amputation of the breast I followed Halstead's method in a number of cases, but for the past few years it has been my custom to detach the pectoral muscles first after making an incision around the breast as wide as we desired. This operation has been described by Bickham in his operative Surgery. I did the operation long before I saw Warren's report. Two years ago at the Kentucky School I demonstrated this method. This gives a good view of the axillary artery and vein. As soon as you cut the muscles you can feel the vessels pulsating underneath. It is not necessary to remove the tumor from the muscle at all; you are going to take it off and every one is in accord with the teaching that the pectoral

fascia and the muscle are taken off together. Do not cut into it and you can avoid the transplantation of the cancer cell. I would advise that every possible thing be removed, the thoracic nerve or the external respiratory nerve of Bell is saved. If there is any involvement above that clavicle, divide and take out the glands and clean out the supra-clavicular spaces.

The case reported by Dr. Wathen is interesting on account of it bearing out the experience of Dr. Moss, as to the location of carcinoma of the breast showing that the majority are in the outer half—the upper and outer quadrant This being upon the inner and upper quadrant it is of more interest because the operation is rather problematical and more so because of the involvement of the bone and the lymphatics here go through and anastomose with those of the mediastinum. We cannot promise much in this case. Macroscopically the breast looks like a favorable case. I congratulate the doctor upon his success in this case.

DR. J. R. WATHEN (*closing*): I am heartily in accord with what Dr. Samuel has said. But there is one point that has been taken up and that is the use of the pectoralis major and minor muscles so far as the movement of the arm is concerned. This patient was able on the second day to feed herself and use the arm almost as good as before the operation. I asked this patient to show how much movement she had and she could bring the arm up, over and around. I never saw a case have such complete control of the muscles.

DR. W. H. WATHEN: I want to report five appendices removed, only two being operated on for appendicitis, and even in these cases even the operation was exploratory. One of the cases was brought from Illinois, and diagnosed as appendicitis by her physician. She had had an attack with a temperature 101, which continued a few days. The little girl, aged fifteen, had had constant annoyance and considerable pain in the region of the appendix and some tenderness since this attack. The abdomen was opened and the appendix found in a condition of chronic catarrh with several concretions, with the opening into the bowel nearly obstructed so that the concretions could not be forced out. The appendix was removed last Wednesday a week, and there has been no trouble or any pain about the region of the appendix since.

Another case operated on by exploration was brought here ten days ago with the history of having had imperfect symptoms of appendicitis. Her doctor, however, had diagnosed appendicitis. There was a mass deep upon the right side close to the pelvic wall reaching from the umbilicus to below the superior spinous process of the ilium and going down nearly to the pubis. The omentum was found matted in the mass over in that side with extensive adhesions around the caput coli and going up the colon. After extensive and difficult dissections, these adhesions having occurred a long time ago, the appendix was found deeply imbedded in this mass

and was separated from its attachment and removed—requiring a great deal of dissecting to find it.

The three other cases were where I operated for other troubles. One, a double pyosalpinx with extensive omental adhesions with a great deal of pus in the pelvis. The inflammation involved the outer part of the appendix and had not caused any inflammation proper of the mucous membrane of the appendix, but it was very much thickened.

The other two were operated on for other troubles and the appendix found involved and removed. During the last year I have had from fifteen to twenty-five cases where I removed the appendix while operating for some other condition and did not know that the appendix was involved. It is found so frequently that I never open the abdomen that I do not examine the appendix. I do not believe in removing a healthy appendix, but when the appendix is adherent even with no well defined inflammation of the muscosa it is so crippled that it had best be removed.

This afternoon I operated on a woman who seven weeks ago was delivered at term, infection following within a few days, beginning with chill and fever. Following that she has continued to suffer; fever from 101 to 104, pulse 100 to 125, losing flesh and becoming very thin and feeble. The pelvic structures were matted together, almost immovable, with enlargement upon each side. In operating I found the entire lower end of the omentum adherent all around the pelvis and far over on the right side. It was separated with difficulty and the diseased parts removed. The appendix was removed. When I began separating the omentum pus immediately appeared, and the ilium was found firmly adherent for about eighten inches, and in the mass was the cæcum and the lower part of the ascending colon extensively adherent; it was separated with considerable difficulty.

It is unusual to have as much pus as we found when we separated the omental and intestinal adhesions with no real involvment of the tubes. You will see that this tube is free from pus and not obstructed. The tube, however, was removed because at its attachment to the uterus it was rotten and was torn through in dissecting off the omentum. The ovary as you see is but little diseased, and on the other side the ovary and tube were found in almost a healthy condition. The uterus was very rotten and in breaking up the adhesions a large tear was made on the left side. It was so rotten that you could not even suture. The bleeding did not amount to anything. I did not remove the uterus for the reason that the rotten part was confined to the attachment of the intestines and the omentum. The parts on the right side were apparently healthy and I left one ovary and one tube so that the woman not only will recover but may bear children.

DR. FLEXNER: May I ask what the route of infection was?

DR. W. H. WATHEN: The route was evidently through the walls of the uterus.

DR. FLEXNER: How long after delivery before the trouble began. I notice that hysterectomy is recommended in these severe infections.

DR. W. H. WATHEN: About two days. Some have claimed they get better results by removing the uterus and the whole pelvic contents than by leaving them.

DR MARSHALL: The question of the removal of the appendix is one that we have discussed a great many times. I would like to ask the members as to what is their experience, or rather to give the statistics about the after effects. I see occasionally reported in the journals cases in which adhesions have taken place where the appendix has been removed. When we tear up these adhesions what is the probability of other adhesions at the point where the adhesions were broken up? Will the large areas of bowel become adherent afterwards?

DR. W. H. WATHEN: Dr. Marshall has brought up an interesting point, the formation of adhesions after operations. There has been practically little of real value along this line in literature, but I have one case that will illustrate that point and that was a vaginal hysterectomy. I had occasion to operate on this patient two years afterwards and much to my surprise found that the vagina had not only closed off entirely but there was not a single adherent intestine, nor was the omentum adherent.

I have nothing to say except to answer the question about removing the entire uterus. I have removed the uterus in this condition. Where there are intestinal adhesions I go above and if I find the uterus in such condition that I think it will cause no trouble I leave it. I have found in a number of cases where the uterus was much enlarged and the patients had suffered for weeks with high temperature and rapid pulse that by making a vaginal incision and draining from the peritoneal cavity that they have gotten well. I remember two patients where the uterus was very large, and I operated on one eight weeks after delivery. I afterward delivered this woman after I had drained her posteriorly. The other had a fibroid tumor of the uterus, and it has gone down to nearly the size of a normal uterus.

I operated on a lady at Madison, Ind., and did the same operation. She had had a high temperature and rapid pulse for several weeks. This woman had a fibroid tumor, and she came to Louisville afterward and was examined by a prominent surgeon, and the uterus had returned to nearly normal size. If we drain posteriorly, we relieve a great many of these people and they get well and have a normal uterus.

DR. SAMUEL: Would it be any use to remove the uterus where we had a systemic infection?

DR. W. H. WATHEN: Not if the infection was more in the system than in the uterus.

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Dr. Wathen: This specimen that I present is one of carcinoma of the breast in a woman past fifty, and I present the specimen for two reasons. In the first place, the tumor was in rather an unusual position, being to the inner side of the breast, and involving those glands which are found on the inner side, and possibly those of the mediastinum, with a necrosis of the sternum, and a few ribs and a very small involvement of the glands in the axillary space and those leading in that direction. Another reason why I present the specimen is to illustrate a new technique for the removal of carcinoma of the breast, viz., that of Warren, of Boston, described in the December number of the *Annals of Surgery*. You are all familiar with the technique of Halstead, of Johns Hopkins, where he makes an incision over and around the breast and works toward the axilla and removes the pectoralis major and minor and the glands in the axillary space. Warren has reversed the order for good reasons. Beginning with the attachment of the pectoralis major to the bicipital groove of the humerus, he separates the pectoralis major muscle and clears the axillary space first; he works toward the tumor, having ligated first all the large vessels that go to the tumor. Removing the mass and muscles this way avoids infecting the area around the arm and axilla with tumor cells which might come from the original mass as carried over by Halstead. This method also avoids ligating a great many little arteries by ligating the trunks in the axilla. There is a very small amount of hemorrhage following this operation. I believe Warren's operation is going to be the coming method.

This next specimen was removed by laparotomy. It is a fibroid tumor of the interstitial and subserous type, and was removed by separating from the bladder anteriorly and ligating the broad ligament on either side. The unique feature is a small fibroid found in the broad ligament an inch and a half from the uterus, between the layers of the broad ligament. The question arises as to whether it was originally in the broad ligament or whether it was pushed off from the original tumor and the pedicle strangulated. My opinion is that this type of tumor comes primarily from the uterus.

This second specimen of fibroid is a tumor of the same general type, that of interstitial and subserous myoma, and I present this for the reason that I found it hard to make a diagnosis. I examined the patient, and by feeling through the vagina I could feel the enlarged uterus, which was twice or three times its natural size, and I told the patient that I thought it could be removed by the vaginal operation. We started the operation from below and removed the cervix and mass from the uterus, but from the fundus this mass presented, and when I attempted to pull this down, in bringing out the last part of the uterus, I found it was impossible to

remove this mass through the vagina without some danger, and I then went above and removed the tumor with much trouble.

This type of tumor is the most difficult to deal with. They are generally tight in the pelvis against the pelvic bones, and in such a way that it is impossible to get a clamp between the tumor and the pelvis. In the very large fibroids they are easily removed where we can lift the tumor out of the abdomen and put on the clamps. I do not believe this tumor could have been removed without the combined plan of going below and above, which allowed relaxation, without which it would have been impossible to put a clamp in place. This operation not only allowed the tumor to be lifted out of the abdomen, but allows better drainage. I removed the cervix and the uterus and placed in a large amount of gauze with a rubber drainage tube. All the cases presented have made a nice recovery.

The next specimen is that of a tubercular testicle, this man having had a bilateral involvement, both testicles being involved. I did a complete castration on this side. On the other side I curetted the epididymis and the tunica vaginalis.

In this jar I have two specimens that I would like to present. The small specimen is a syphilitic prostate I removed. One side was somewhat enlarged and the other lateral lobe was very large, and when I went to enucleate it, it was almost a gelitinous mass and hulled out in pieces. The unique feature about this case is that so far there are only three cases of syphilitic prostatitis reported. This man was forty-two years of age, gave a syphilitic history with a prostate nearly as big as an orange. He left the hospital in a week after the operation.

The points of interest are the syphilitic prostate and the rapid recovery, the man remaining in the hospital but one week.

The larger specimen is from a man sixty-three years of age, operated on last Tuesday at St. Anthony's Hospital, and he had a very large prostate. I removed this prostate by the method of Young, and it was nicely enucleated, as you will see the lateral lobes here. This man can retain his urine for quite a while and is doing nicely and is able to sit up. In this bottle you will see the prostates of five of my cases.

DR. KIEFER: I would like to report a case of placenta previa. About three months ago I was called to see the patient, who had had a great deal of hemorrhage. The patient came to see me at my office first, and I told her to stay at home and keep quiet. I gave her a prescription, and it seemed to control the hemorrhage nicely until four weeks afterward, when I was called. The hemorrhage kept up for some time, with great annoyance and a great deal of emaciation, and I told her of the possibilities that might occur. She would not allow me to make an examination.

Two weeks ago Sunday morning I was called in great haste. I found the patient suffering intense pain, and I gave her a quarter of a grain of morphine. which quieted her for a little while. I examined her and found the os dilated and the membranes protruding. She was suffering

still a great deal and the bleeding was profuse; I gave her another quarter of a grain of morphine, and in three-quarters of an hour the whole membranes intact without being ruptured was delivered. After that I had a little hemorrhage, and the patient got along fine.

DR. ABELL: At what stage of pregnancy did this occur?

DR. KIEFER: Between the sixth and seventh months.

DR. DAVIDSON: I would like to ask the Doctor if when he made his examination he felt the placenta.

DR. SPEIDEL: Placenta previa is not discovered until after the seventh month of pregnancy. I would like to call attention to the fact that in most of these cases there is a history of a previous abortion, as placenta previa is caused by a dislodgement of the ovum in early pregnancy. I venture to say in Dr. Kiefer's case there will be such a history, and the ovum lodged in the lower segment of the uterus, and was discharged between the fifth and sixth months of pregnancy. I do not believe it would be considered a case of placenta previa, because it does not show itself until the seventh month of pregnancy.

If the diagnosis is made, immediate delivery should be insisted upon. I believe in a case of that kind I would retire from the case before taking the responsibility of conducting it without an examination.

DR. HENDON: The mention of a case of placenta previa brings to my mind an experience I had along that line. I was passing along by a house, and a man came out and asked me to go in and see his wife, who was in labor and bleeding profusely. I went in and made an examination and discovered a placenta previa at what appeared to be the seventh month of pregnancy. I found the arm of the child presenting. I gave chloroform and performed and delivered the child, and then upon examination I found quite a large fibroid tumor complicating the condition. I just mention this because it is rather interesting and unusual to find these three in combination.

DR. MEYERS: I would just like to report a case that occurred two weeeks ago. I was called over the telephone by a doctor who had recently graduated to come and see a case with him; he said that the woman had a placenta previa and was bleeding to death. I hurried to the place, and he met me and said that the woman had almost bled to death. I went in, and the woman did not look like she had lost any blood. I asked her if she had been flooding, and she replied that she had not lost any blood. I turned to the doctor, and he said, "She told me she was flooding." The membranes had ruptured, and he thought the patient was bleeding to death. He had not made any examination. This man graduated from one of the Louisville schools two years ago.

DR. DUNN: I want to report an experience that happened to a patient of mine three or four months ago. He had a pin in his mouth, and in an

endeavor to remove it from beneath his tongue it disappeared. A thorough search with fingers and by means of a mirror failed to determine its location. He was positive that he had not swallowed it and equally as positive that it had not been removed from his mouth. He came to me to see if I could locate it with the X-ray, but as he did not want to go to the expense of having a skiagraph made, I simply made a fluoroscopic examination, which was negative. I examined his throat and mouth very carefully with my fingers and with the aid of a mirror, but could find no pin, and could not elicit any pain in or about the mouth. I insisted that he must have removed the pin while busy about something else, and did not remember doing so. This he did not think possible. I dismissed him, however, and told him if he had any further trouble to let me know and I would do what I could for him. The following morning he called me up by 'phone and told me that he had found a hole beneath his tongue, in which he had placed a pin tied to a thread, and by means of the thread had removed it again, and it was his belief that the lost pin would be found in this opening. He came to the office at once, where he showed me the orifice of Wharton's duct. I introduced a probe into this duct a distance of two to two and one-half inches and immediately felt the lost pin. I was puzzled for a moment to know how to remove it, but finally improvised a hook by cutting off the flat end of a probe in which there was an eye, after which I bent the two arms of the eye thus made into a double hook. This I succeeded in passing into Wharton's duct, and after a little manipulation engaged the pin in the improvised hook and withdrew it point first, after which he had no trouble.

It would be well to report this case to people who are in the habit of carrying pins in their mouth that they may avoid the repetition of this occurrence.

DR. IRELAND: That was indeed a very unique accident, and I think the Doctor is to be congratulated upon the success and ease with which he removed the pin. The fact that the head was directed backward, I think, would make it difficult to grasp in that way. I want to congratulate Dr. Dunn upon his success in getting it out.

DR. DUNN: I am sorry to have to report the death of that case of splenic leukemia which I presented to the Jefferson County Medical Society the latter part of last summer. At the time I reported this case to the Medical Society, she had taken 129 treatments, the spleen had greatly diminished in size, and the blood count had considerably improved. The menstrual function had returned to normal, and the patient was anxious to be dismissed, as she felt that she was entirely well. I made the statement, however, that I would endeavor to continue treatment until the normal ratio existed between red and white blood cells. The patient, however, discontinued her treatment voluntarily July 11th, and, as she expressed it, believed that she was well enough and would need no fur-

ther treatment, but after a lapse of two months and a half the spleen had increased considerably in size, as shown by the cut (C to D), consequently began treatment again. At the end of about three months the spleen



(A) Shows size of spleen when treatment began (Dec. 17, 1903). (B) Five months later (May 17, 1904). (C) Treatment discontinued (July 11, 1903). (D) Treatment resumed (Sept. 24, 1904).

had again increased in size until it was about the size shown in cut (C). The blood count made at the end of two months and a half in which she took no treatment (September 24, 1904) is as follows:

September 24, 1904: Red, 5,184,000; leucocytes, 48,000; color index, .7; proportion red to leucocytes, 108 to 1. Red cells: Shape, irregular; size, irregular; nucleated, none. Leucocytes: Large lymphocytes, 7%; small, 10%; polymorpho-nuclear, 57%; eosinophile, 6%; myelocytes, 20%; hemaglobin, 70%.

The only change made in the internal treatment in this case was the addition of an ounce of tr. ferri. chloridi. in 16 ounces of glyco phospho calisaya. At no time in her treatment has she taken arsenic.

The blood count made on February 16, 1905, is as follows:

Red, 5,640,000; leucocytes, 66,800; color index, .68; proportion of red to leucocytes, 84 to 1. Red cells: Shape, irregular; size, irregular; nucleated, present. Leucocytes: Large lymphocytes, 8%; small, 17%; polymorpho-nuclear, 43%; eosinophile, 6%; myelocytes, 30%; hæmaglobin, 76%.

Remarks: Basophyle, 3%.

About the first week in February my attention was called to the rapidly-increasing growth of the spleen. Extra treatments were given with a view of arresting its growth, but to no avail. So rapidly did it grow that upon February 21st the patient was obliged to discontinue her visits at the office on account of a return of the former symptoms of weakness, depression, and insomnia, and after a few days' confinement to her room, died on February 26th. At this time the spleen was larger than it had

ever been, extending to the pubic bone and three or four inches to the right of the median line.

DR. POPE: I have an interesting case that I mentioned to Dr. Jenkins this afternoon, showing the delusion under which quite a number of people rest. The patient consulted me for loss of sensation and numbness, and I could find no apparent cause for the trouble, and finally I asked her what kind of medicine she had been taking, among a number of other questions. She said that she had only taken some tonics. I asked what kind of tonics she had taken, and she named a commercial article which we all know contains 42 per cent of alcohol, but advertised in the daily papers as a "tonic." She took it four or five times a day, and she said it made her feel good. I then found that she took some other preparations, among which was a certain malt whisky; she took that four or five times a day. I call attention to this fact because I believe that this woman is suffering from an alcoholic neuritis, due to taking these nostrums under the delusive name of "tonics." It seems to me that if there is a word that fits a nostrum better than any other that word is *tonics*. I have removed the said tonics (?) and am treating her for the neuritis.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, APRIL 18, 1905.

DR. JNO. R. WATHEN: I have two interesting radiographs to exhibit to the Society to-night. This patient, a young man twenty-four years of age, was run over by a heavily-loaded stone-wagon, crushing his leg into a soft dirt road, causing a compound comminuted fracture of both bones at about the junction of the middle and lower thirds of the tibia and fibula. Under anesthesia, I enlarged the incision and cleaned up the parts. These pictures, taken to-day, illustrate the condition of the bones after union has taken place. The first is an antero-posterior view and the second a lateral view.

The next specimens I wish to exhibit are two lateral lobes of a prostate which were removed last Tuesday from a man about sixty-three years of age. The prostate was one of unusual size. I merely present the specimen for the reason that we have discussed cases of this nature several times before. It has been one week since the operation, and the patient is to-day doing very nicely.

DR. MARSHALL: As far as I can make out from the pictures, the Doctor has certainly obtained an ideal result in this fracture. It is always interesting to see such perfect results following a severe injury of this nature. I believe that, no matter how severely a bone may be crushed, as long as the vascular supply gives a hope an attempt should be made to save the member, especially in the young.

DR. SAMUEL: I was somewhat interested in what Dr. Marshall said. I reported several cases to this Society on two or three different occasions in which limbs were very badly crushed; one was that of a man who was run over by a wagon load of ice, crushing the ankle joint; it was sutured, and the result was very good. Another case wast hat of a little boy who had the skin and muscles torn from the fibula for a space of six or eight inches. This patient also made a good recovery.

The method I have usually followed in treating compound fractures is as follows, regardless of whether the fracture was the result of direct or indirect violence. If a man breaks his leg by indirect violence and the end of the bone merely button-holes the skin, it is still a compound fracture, and although far simpler than one sustained by direct violence, is apt to be as disastrous as the other; remotely therefore, I believe that when we have a compound fracture by violence it is wise to open it up, thoroughly examine it and close it up after putting in a drain. Drainage is our safeguard in cases of this character.

I have also used in cases of this character antiseptic irrigation in order to get rid of the infection, except solutions such as bichloride of mercury, which are more or less detrimental to the cellular aliments.

DR. MARSHALL: In regard to what Dr. Samuel said relative to fractures sustained by direct or indirect violence, I believe where violence is so great from the outside as to destroy the tissues down to the bone the destruction is generally much greater than where the bone is wrenched and merely button-holes the skin, and that being the case, repair will necessarily be much slower, and the changes and alterations, as well as the shock, proportionately greater.

In reference to my remark that no matter how extensive the injury was, an attempt should be made to save the member. I remember the case of a little boy who was run over by a car and whose injuries were so extensive that three doctors were preparing to amputate the limb when I was called, and I insisted upon trying to save the boy's leg. The boy's family were also in favor of saving the leg if possible; therefore, it was not amputated, and the boy is walking on that leg to-day.

Weak solutions of antiseptics are very valuable in cases of this nature if the parts are thoroughly cleansed afterwards with normal saline or even plain sterile water. I have not seen any disagreeable results following the use of weak solutions of bichloride of mercury provided it is thoroughly washed away afterwards.

DR. SAMUELS: Dr. Marshall misunderstood me. By fractures from direct violence I meant complicated fractures, which are far more serious than those sustained by indirect violence where the skin is merely button-holed. However, when the skin is punctured they may become just as serious as those which are the result of direct violence by the condition which makes all fractures serious, and that is infection, such as suppura-

tion, non-union, delayed union, etc. In a so-called indirect compound fracture we were formerly taught to immediately convert it into a simple fracture by sealing it up. Every one has seen bad effects following such treatment as that.

DR. JOHN R. WATHEN: The discussion seems to have wandered from the purpose from which I presented these radiographs. The case was one of the worst types of fracture—a compound comminuted fracture of the tibia with loose bones between the ends, and not only has functional activity been restored but good results anatomically have been obtained. While functional results are all that we usually look for and are eqnivalent to success, these pictures, taken at right angles, show that a good anatomical result was obtained.

DR. SAMUEL: I have a specimen to exhibit to the Society this evening which, in my opinion, presents many points of interest, both from a pathological and clinical aspect. The patient is a young man of thirty-three years. He gave a history of having had typhoid fever twenty years ago, at the age of thirteen, and pnemonia fourteen years ago. He stated that one year ago while trying to jump a ditch with a pump on his shoulder he experienced a severe pain in the inguinal region, and two weeks afterwards developed an epididymitis; he denies gonorrhœa—all of which I do not believe. Six months after this the testicle became enlarged and tender and a hydrocele rapidly developed, soon attaining an immense size. About three months ago he was tapped. He was operated on to-day and this specimen was removed.

I am sorry the data is so meager, but the facts were given to me by an interne and he did not state whether or not the man had fever or other symptoms.

The hydrocele was one of the largest I have ever seen. The scrotum was so full of fluid it extended up to the internal ring, still retaining its pear-shaped appearance, and I diagnosed the case as one of tuberculosis of the testicle. It is one of the most beautiful specimens I have ever seen; here is the typical cheesy deposit of tuberculosis. It is sometimes very hard to distinguish between tubercular testicles and syphilitic testicles, but we know that the latter is a practically painless condition and in this case the man was exquisitely tender to the touch. I do not believe there was any involvement of the prostate or seminal vessels.

The specimen and the facts which I have related in connection with it came into my possession through the courtesy of another person.

DR. WEIDNER: The specimen exhibited by Dr. Samuel certainly looks as if a tubercular condition existed, and I have no hesitancy in diagnosing tuberculosis, but I believe that diagnosis should be confirmed by microscopical examination.

The interesting question is where the infection takes place. I suppose there is some point of original infection which has not been discovered, but will perhaps make itself evident later on.

DR. JOHN R. WATHEN: Dr. Samuel's specimen is certainly very interesting, and especially so at this time, as we are seeing a great deal of tuberculosis, particularly in the testicles. I believe the more we learn of tuberculosis the more we realize that it is more general than might at first be supposed. For instance, in a case like this where we find a diseased testicle, I believe that if other parts of the body were examined many evidences of tuberculosis would be found. I have operated on quite a few cases of this character and my experience has been that where one testicle is very badly diseased, and the other only slightly so, if the worst one is removed the other will improve very much. Why this is I do not know, though it might be accounted for by the theory that tuberculosis is a self-limited disease and will cure itself if given a chance by the removal of the testicle which is worst diseased.

DR. ABELL: I regret, Mr. President, that I did not hear the report of the case; continuing the discussion of the pathology as suggested by the preceding speaker, the specimen shown is a very pretty one and shows that the process began in the epididymis, as is usually the case. It is generally believed that in primary cases of testicular tuberculosis the bacilli gain entrance to the circulation through the mediastinal lymph glands, which have been shown by Bugge to be tubercular in 75 per cent. of cases coming to autopsy; the local conditions favoring their deposition in the epididymis are a previous epididymitis, mild injury to testicle or epididymis (the reaction following severe ones being usually sufficient to destroy the bacilli), and the mechanical hindrance afforded the blood in the branch of the spermatic artery going to the head of the epididymis; under such circumstances the primary nodule is generally found in the intertubular connective tissue, corresponding to the termination of the vessel, while in secondary lesions resulting from an infection descending from a focus higher up in the genital tract, the primary nodule is to be found in the walls of the tubule. From these points the infection spreads to the body of the testicle proper, as was evidently the case in this specimen, instances of a primary deposition in the body proper being very rare, although I have seen three such cases, two of the specimens having been presented to this Society.

DR. MORRIS: I merely wish to report a case along somewhat the same line as that reported by Dr. Samuels. The patient had, about six years ago, suffered an ordinary attack of typhoid fever, lasting about six weeks. When the fever had subsided, and he was beginning to get better, he was attacked by an exceedingly acute pain in the testicle, a short time after which the testicle began to enlarge and became inflamed to such an extent that I called a surgeon to see him, and as soon as he was able to stand an operation the testicle was removed and shown to be tubercular. This was six years ago, and the patient has completely recovered, showing, in my opinion, that the primary trouble, so far as

tuberculosis was concerned, began in the testicle and ended there. He has never had any symptoms of tuberculosis from that time to this.

DR. SAMUEL (*in answer to Dr. Morris*): I saw this case recently with one of the surgeons of this city, presenting as a tumor of the scrotum. The man had fever some time before I saw him, but considered it malaria or something of that kind. He had just a slight nodular enlargement of the epididymis, which was not painful to touch. One surgeon diagnosed hydrocele and subsequently punctured it, but obtained no fluid. Two weeks later he was operated upon, and a tubercular condition found to exist. I had always been under the impression that patients of this character suffered a great deal of pain, but in this case the man had practically no pain. It has been my experience that when the testicle begins to enlarge from tuberculosis there is more or less pain, daily becoming greater as the testicle enlarges. I have seen a few cases in which the pain was very slight becoming much greater upon pressure. In malignant cases the patient is often without pain, even after the tumor has attained some size. Where mixed infection occurs in tubercular testicle it becomes very painful. In the case reported to-night the mere approach of a finger to the man's scrotum would seem to cause pain; other parts of the sac were not painful. In tubercular cases pain is a diagnostic feature in contra-distinction to other diseases of the testicle.

DR. JNO. R. WATHEN: In reference to the emergency outfit which I exhibit to-night in connection with my essay, I wish to say a few words of explanation. This bandage has been thoroughly sterilized and sealed up in this package and may be thrown in any dirty place and then picked up and used. These trays may be used for water or any extra dressings which may be necessary. The ligatures, which are always of importance in emergency cases, are carried in this little metal box. The whole outfit is simplicity itself.

DR. W. H. WATHEN: The literature lately has been crowded with a very full discussion of just this very subject, and one authority, I believe, in Europe, reported a number of post-mortems in these cases of splenic leukemia that had been treated with the X-ray, and he strongly condemns the X-ray in these conditions. Most all cases have seemed to be attended by the same fatal end that Dr. Dunn's case has.

PROCEEDINGS OF THE ACADEMY OF MEDICINE, MAY 3, 1905.

DR. HENDON: I have a pathological specimen to exhibit to the Society to-night. It is an appendix and only becomes interesting when the location in which it was found is taken into consideration.

Recently I was called to see a woman about sixty-nine years of age

who had had a lump in the right groin for some time. In bathing herself she suddenly discovered that it was tender, and a day or two afterward she developed considerable pain. There was no fever, the pulse was about 100, and there was no vomiting, and nothing whatever to indicate appendicial involvement. I diagnosed incarcerated femoral hernia and advised operation, which advice was reluctantly accepted. When I cut down on the mass I was very much surprised to find a tumor about the size of a turkey's egg, very dark, and when I opened it a large quantity of dark fluid gushed out, and the appendix was found floating in the liquid. The appendix had strangulated just where it came through the femoral ring. The extremity was somewhat clubbed, and had begun to undergo gangrenous process. Up to that time I had never heard of an appendix in a femoral hernia, but a few days afterward I received a copy of Dr. Kelly's new book on appendicitis, and found where he illustrates one very beautiful case, it being a counterpart of my own. I simply ligated the appendix as in ordinary appendectomy, pushed the head of the cæcum back into the cavity and sutured the ring. The patient has progressed very well.

DR. SIMRALL ANDERSON: This is a very interesting case. I remember seeing an operation for strangulated inguinal hernia in which the appendix was found. The appendix is not always located on the right side under McBurney's point. I recall a case in which I assisted my father where an operation for pus tubes was performed and the appendix was found adherent to the left tube.

DR. BLITZ: I have a case in which I have been unable to make a satisfactory diagnosis. The patient, a man, gives the history that several years ago after eating bananas and cream he experienced a very severe pain in the back. Several times after that he ate bananas and cream, and each time thereafter he suffered from pain in the back and came to the conclusion that the dish mentioned was the cause of it and did not touch it any more. A week or ten days ago he ate some salmon salad, and upon getting up to leave the table he discovered that his legs were very weak, and he had to have somebody assist him to his room. There was no cramping or anything of that kind; they simply became very weak and numb. This weakness disappeared in about two days, but a day or two after that, while he was going upstairs, they commenced getting weak again; this time it only lasted one day. When I saw him he was very nervous. He was a man who smoked about fifteen cigars a day and drank a good deal of coffee. I would like to ask whether it is the opinion of anyone present that the man's stomach could produce the condition described or whether it is simply a hysterical condition.

DR. HENDON: I wish to inject into the discussion a fact that has been very forcibly impressed on my mind, and that is that the incompatibility of fish and ice-cream seems to be established among the laity.

I have never heard them say anything of ice-cream and bananas, but I have been asked several times about the incompatibility of fish and ice-cream.

DR. HUGH LEAVELL: Two weeks ago I was called to see a man who was suffering with cramps in the lower extremities. There was no fever and no history of digestive disorder of any kind and no headache; merely cramps in his lower extremities from the knees to the ankles. I thought perhaps he had a little autointoxication of some kind, probably due to the liver, and gave him free purgation. Four days later I was called to see him, and found that he had facial paralysis on the left side, involving also the left half of the trunk. He denied positively the existence of syphilis; he has never imbibed excessively, and particularly is this true of the last year, during which time he stated he had taken no intoxicants. The facial paralysis is to-day in the same condition that it was a week ago; there has been no cessation, no involvement of the ear, no tenderness in the region of the mastoid, and no evidence of any involvement of the facial nerve. The man has been taking iodide of potassium in ascending doses until he now takes twenty drops; he has also been taking strychnia.

It is a question what causes this facial paralysis, particularly at this season of the year. The cramps were intermittent, coming on at intervals of an hour or two, and lasted only three or four days. The man is thirty-eight years of age and is employed as an engineer in one of the railroad offices here, which, however, does not seem to have any bearing on the case.

DR. MOREN: Can he shut his eye or raise his eyebrow?

DR. LEAVELL: He cannot shut his eye, but he can move his eyebrow.

DR. MOREN: The chances are that this will prove to be peripheral neuritis and independent of the cramp in the limb. The lesion must be very extensive to affect both centers of the seventh nerve. The branch that goes to the upper face is separate and a little bit away from the branch to the lower face. In cases of apoplexy the lower face is usually the part affected. The eye may be involved for a short time, but it soon passes away and leaves paralysis of the lips only, while in peripheral paralysis the whole face is affected.

DR. TULEY: I wish to exhibit a temperature chart in connection with a case of typhoid fever which presents two unusual features. The patient, a boy about nineteen years of age, developed a typical case of typhoid fever in every respect. On the twenty-seventh day of the disease, the temperature, in about five hours, dropped from 103 4-5 to 96 2-5 without any hemorrhage and apparently no cause for the reduction. Within the same twenty-four hours it rose again to 103 2-5 and dropped to normal the next day. For four days it ranged between 100 and 101.

On the nineteenth day the boy developed paralysis of the external muscle of the right eye, and this exists to a certain extent to-day, although it is gradually improving. There was double vision for a week or ten days after it was first noticed.

The enormous drop in temperature with hemorrhage was a new experience to me. This case emphasizes the importance of the use of temperature charts.

DR. LEAVELL: The condition described by Dr. Tuley might be explained by the theory that a central lesion developed, causing the paralysis of the abducens nerve, which supplies the external rectus and also involving the heat center just at the time the temperature dropped. There must be close relationship existing between these two conditions.

BOOK REVIEWS.

Eye, Ear, Nose, and Throat Nursing.—By A. Edward Davis, A. M., M. D. Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital, and Beaman Douglass, M. D., Professor of Diseases of the Nose and Throat in the New York Post-Graduate Medical School and Hospital. F. A. Davis Company, Publishers, 1905.

It has been a common observation among oculists and aurists that nurses who have received a general training are often very deficient in the knowledge of the requirements of patients with affections of the eye, ear, nose, and throat.

This is especially true in the serious contagious affections of the eye, as trachoma and gonorrheal ophthalmia, and in the care of patients who have undergone operations upon the eye-ball. Drs. Davis and Douglass have supplied in this publication instructions governing the nursing of eye, ear, nose, and throat, which should make the work invaluable to every nurse doing general work. It should also be of value to special and general practitioners, as it deals in detail with the care of the patient during disease and after operation. The anatomy and physiology of the eye, ear, nose, and throat, is also taken up briefly. The chapter devoted to the care of the operated cases, especially the one devoted to the care of the patients after the extraction of cataract, is especially commendable.

Dr. Douglass has written the chapters on the ear, nose, and throat, and Dr. Davis the ones on the eye. This is the second work from the pen of Dr. Davis to be reviewed by us in the last three months, and is another evidence of the success of this Kentuckian in New York. It gives us special pleasure to recommend this work to every nurse doing general nursing, and to physicians doing ophthalmic and aural surgery.

The publishers have made the work attractive with thirty-two good

illustrations. The little book, which, judging from its size, is inexpensive, should have a large sale. ADOLPH O. PFINGST.

Radiotherapy, Phototherapy and High Frequency Currents.—The Medical and Surgical Applications of Radiology in Diagnosis and Treatment. By Charles Warrenne Allen, M. D., Professor of Dermatology in the New York Post-Graduate Medical School. Octavo, 618 pages, 131 engravings and 27 plates. Cloth, $4.50, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York.

I have never read a more complete work upon any subject. The author begins with the history and ends with the latest advances in this important branch of medicine.

The author's clear expression and usefull illustrations are striking. He discribes the apparatus and how to use them; he explains the rays and how and where to use them. The author and publishers are to be congratulated for such a useful, practical work.

The chapters on the different discures is well illustrated by photographs and histories of clinical cases. Thoses on the ill effects of the rays, as well as those upon radium, sunlight, high-frequency currents, are all good. This is one of the books to be digested. J. J. MOREN.

Manual of Operative Surgery—By John Fairbairn Binnie, A. M., C. M., Professor of Surgery, Kansas City Medical College, Kansas City, Mo. Fellow of the American Surgical Association and Membre de la Societe Internationale de Chirurgie. 644 pages, 559 illustrations, many of which are in colors. P. Blakistons & Sons, Publishers, Philadelphia, Penn. Price, $3.00.

In the work which Prof. Binnie has given to the profession he has supplied a place in surgical literature that is of inestimable value. The work being that of a manual he has dropped many little things that has served to condense the book down to a volume of essentials. Special attention is given to those subjects of most importance to the surgeon and practitioner; the chapters on surgery of the stomach, hernia, both umbilical and inguinal, deserve special mention as containing the most recent ideas along the lines of operative work for their relief.

The article on prostatectomy is of especial interest, giving as it does the work of the Johns Hopkins hospital along this line, which is considered the best to be had at this time. The work is beautifully illustrated, containing 559 illustrations, some of which are in colors. The author is to be complimented on his work. A. D. WILLMOTH.

Progressive Medicine—A quarterly digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Holert Amory Hare. March 1, 1904. Lea Brothers and Co., Philadelphia and New York.

At the present time when there is such a great number of medical periodicals and when there is so much written that is purely ephemeral value, a work like Progressive Medicine, which reports only real progress, is welcomed alike by the general practitioner and specialist. The present number contains much of interest. The surgery of head, neck and thorax has been thoroughly reviewed by Frazeir.

Peeble's resume of the progress made in the study of infectious dis-

eases contains much that represents a distinct advance. Adequate space is given to diseases of children, laryngology, rhinology, and otology, and the subjects are handled in a thoroughly satisfactory manner.

B. F. ZIMMERMAN.

BOOKS RECEIVED.

Welch & Schamberg on Acute Contagious Diseases.—A Treatise on Acute Contagious Diseases by William M. Welch, M. D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases; Diagnostician to the Bureau of Health, etc., Philadelphia, and Jay F. Schamberg, A. B., M. D.; Professor of Dermatology and of Infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, and Assistant Diagnostician to the Philadelphia Bureau of Health, etc. In one very handsome octavo volume of 781 pages, illustrated with 109 engravings and 61 full-page plates. Cloth, $5.00, net; leather, $6.00, net; half morocco, $6.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Modern Clinical Medicine, Infectious Diseases.—Edited by J. C. Wilson, A. M., M. D., an authorized translation from "*Die Deutsche Klinik*," under general editorial supervision of Julius L. Salinger, M. D. With two colored plates and sixty illustrations in text. New York and London, D. Appleton & Co., 1905.

Nineteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania.—Volumes I and II, complete. Wm. Stanley Ray, State Printer of Pennsylvania, 1904.

Manual of Psychiatry.—By J. Roques De Fursac, M. D.; Authorized translation by A. J. Rosanoff, M. D.; Edited by Joseph Collins, M. D. Fifth edition, New York; John Wiley & Sons, 1905.

A Text-Book of the Practice of Medicine.—For Students and Practitioners. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Royal Academy of Medicine in Belgium and of the Medical Society of London. Author of *A Text-Book of Practical Therapeutics; A Text-Book of Practical Diagnosis*, etc. In one very handsome octavo volume of 1120 pages, with 129 engravings and 10 full-page plates in colors and monochrome. Cloth, $5.00, net; leather, $6.00, net; half morocco, $6.50, net. Lea Brothers & Co., Philadelphia and New York, 1905.

The Open-Air Treatment of Pulmonary Tuberculosis.—By F. W. Burton-Fanning, M. D., Contab. Cassell & Co., Ltd., London. W. F. Keener & Co., Chicago, 1905.

Diseases of the Heart.—A Clinical Text-Book for the use of Students and Practitioners of Medicine. By Edmond Henry Colbeck, B. A., M. D., (Contab.) F. R. C. P. (London.) D. P. H. (Contab.) 48 illustrations. Second edition revised and enlarged. W. T. Keener & Co., Chicago, Ill., 1905.

A Nurse's Guide for the Operating Room.—Second edition, enlarged and revised. By Nicholas Senn, M. D., Ph. D., LL. D., C. M., Prof. Surgery Rush Medical College, etc. Published under the direction of the Sisters of

Charity, St. Joseph's Hospital, 360 Garfield Ave., Chicago. W. T. Keener & Co., Chicago, Ill., 1905.

Harrington's Practical Hygiene.—A Treatise on Hygiene and Sanitation. For Students, Practitioners, Health Officers, etc. By Charles Harrington, M. D., Assistant Professor of Hygiene in Harvard University Medical School, Boston. Now (3d) edition, thoroughly revised. In one octavo volume of 793 pages, with 118 engravings and 12 plates. Cloth, $4.25, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Transactions of the College of Physicians of Philadelphia.—Third series, Vol. XXVI, Philadelphia. Printed for the College, 1904.

International Medical Annual for 1905.—A Resume of the Year's Medical Literature. By thirty-six department editors, with added articles by noted specialists. Illustrated. Bound in cloth, 8vo., 600 pages, postage or express paid, $3.00, net. New York, E. B. Treat & Co., 1905.

Surgical Diagnosis.—A Manual for Practitioners of Medicine and Surgery. By Otto G. T. Kiliani, M.D., Surgeon to German Hospital; Member of the New York Surgical Society and of the Surgical Society of Berlin, Germany, etc. Illustrated with 59 full-page plates and engravings in the text. New York, Wm. Wood & Co., 1905.

Practical Problems of Diet and Nutrition.—By Max Einhorn, M. D., Prof. Med. N. Y. Post-Grad., etc. New York, Wm. Wood & Co., 1905.

Maternitas.—A book concerning the care of the Prospective Mother and her Child. By Chas. E. Paddock, M. D., Chicago. Cloyd J. Head & Co., 1905.

Tic Douloureux and Other Neuralgias from Intra-Nasal and Accessory Sinus Pressures.—By Sargent F. Snow, M. D., Syracuse, N. Y. Reprinted from the *New York Medical Journal* and *Philadelphia Medical Journal*, for January 14, 1905.

Prism Exercises—Their Indications and Technique.—By Alexander Duane, M. D., New York City. Reprinted from transactions American Ophthalmological Society, 1904.

Laryngeal Papilloma.—(Report of Case.) By T. C. Evans, M. D., Professor of Ophthalmology, Otology and Laryngology, Kentucky University, Medical Department, Louisville, Ky. Reprinted from *The Louisville Monthly Journal of Medicine and Surgery*, January, 1904.

The Precise Measurement of the Primary and Secondary Deviation in Paralysis.—With Remarks on the Regular Occurrence of Secondary Deviation in Congenital Paralysis. By Alexander Duane, M. D., New York. Reprinted from *Annals of Ophthalmology*, October, 1904.

Congenital Deficiency of Abduction—Associated with Impairment of Abduction, Retraction Movements, Contraction of the Palpebral Fissure, and Oblique Movements of the Eye. By Alexander Duane, M. D., New York. Reprinted from the *Archives of Opthalmology*, Vol. XXXIV, No. 2, 1905.

The Importance of Testing the Ocular Muscle Balance for Near as Well as for Distant Vision.—By Samuel Theobald, M. D., Baltimore, Md. Reprinted from Transactions American Opthalmological Society, 1904.

The Management of Acute Middle Ear Inflammation of Children—By T. C. Evans, M. D., Louisville, Ky. Reprinted from *The Louisville Monthly Journal of Medicine and Surgery*, April, 1905.

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

TREATMENT OF EXTRA-UTERINE PREGNANCY.*
(FULL-GROWN FETUS REMOVED.)

BY WILLIAM H. WATHEN, A. M., M. D., LL. D.

Surgeon St. Anthony's Hospital, Louisville, City Hospital, and Kentucky School of Medicine Hospital, Fellow of the American Gynecological Society.

THE treatment of extra-uterine pregnancy is a question in which both the general practitioner and the surgeon are equally interested. These cases with few exceptions are first seen by the attending physician, and the success in the treatment depends upon the promptness of the diagnosis, so as to enable the surgeon to give relief before serious or fatal complications may arise.

The immediate danger in ectopic pregnancy is from hemorrhage when the rupture of the gestation sac occurs, which is usually between the fourth and eighth week, and probably never after the twelfth week. Nearly all cases of ectopic pregnancy begin in the tube at any point from its attachment to the uterus to the ampula at its entrance into the peritoneal cavity. It is probable that the rupture occurs earlier in those cases where the ovum is near the uterus, because the cavity of the tube is largest at its outer extremity.

Ovarian pregnancy is so infrequent as hardly to be worth considering, and but few authenticated cases are on record, and just when the rupture occurs in these cases, as compared with the rupture in the tubal form is not definitely settled, but it would probably occur later. I had one operated case four years ago.

With the conception near the outer end of the tube, the ovum may

*Read before Louisville Clinical Society, May 2, 1905

be extruded from its mouth without a rupture of the tubal wall (a tubal abortion) or causing any considerable pain or hemorrhage.

I do not believe that it is possible to have a primary conception in the free peritoneal cavity, because the ovum would probably not be held in a fixed position long enough to enable it to become attached to the peritoneum, and its life would be destroyed by the peritoneal secretions.

The reported cases of primary abdominal pregnancy, are evidently cases where the pregnancy began in the tube or in the ovary, and became secondarily abdominal, as a result of rupture or tubal abortion without excessive hemorrhage, and without separation of the attachment of the chorionic or placental villi, or a rupture of the amniotic sac. The further attachment of the fetal membranes to the adjacent organs and structures finally so destroy all evidence of primary attachment, as to apparently indicate primary abdominal pregnancy.

With the rupture of the tube or the ovary, with or without rupture of the amnion, the chorionic connection is so separated as to—with the rarest exceptions—cause death of the ovum.

From the teachings of the late Mr. Lawson Tait, it was generally believed that where the rupture occurred in the peritoneal cavity, the mortality was practically 100 per cent. unless the patient was promptly operated upon, and that the patients who did not bleed to death were those where the rupture occurred at the lower part of the tube into the folds of the broad ligament.

In an experience of approximately one hundred cases of ectopic pregnancy upon whom I have operated, I am convinced that this teaching is positively erroneous, as I have never seen but one fatal result from hemorrhage. This death was in a patient where the rupture occurred at about the sixth week; she rallied from the first hemorrhage, and twenty-four hours later, died of secondary hemorrhage, just after I reached her home in consultation with her physician, who had obtained her consent to be operated upon.

In many of the cases upon whom I have operated where the rupture was intra-peritoneal, the hemorrhage was not excessive, and in other cases where the hemorrhage was primarily excessive, there was no secondary hemorrhage. It was formerly believed that blood in intra-peritoneal rupture never became encapsulated, though ultimately confined by intestinal and omental agglutination. I have positive proof in a number of operated cases, of profuse hemorrhage in intra-peritoneal rupture, that this is not always true, for I have enucleated large masses of clotted blood from attachments to the pelvic structures and the intestines, entirely surrounded by a separate fibrinous investment, the cavity of the broad ligament being in no sense involved. The fact that nearly all of these cases recovered from the primary shock and did not have any recurrence of secondary hemorrhage, is no argument against the indication for an operation in every case of ectopic pregnancy where

rupture has occurred. There may be a secondary hemorrhage, and if the primary hemorrhage is at all considerable, the blood-clot may never be absorbed, and infection and suppuration may finally result.

While some of our surgeons report cases of ectopic pregnancy diagnosed and operated upon before rupture, these cases are so infrequent in the experience of most surgeons, that they may be considered rare exceptions. This, however, may finally in a degree be different, if the general practitioner is taught to be more careful in the observance of the symptoms that indicate the probability of ectopic pregnancy. I do not remember to have operated upon a case before tubal rupture.

If cases are operated upon with any degree of promptness after rupture and before infection has occurred, there is no serious condition in the pelvic or abdominal cavity that is followed with more successful results. In about one hundred operated cases by both the abdominal and vaginal routes, I do not now recall but three deaths. One was in the primary intra-peritoneal rupture at about the sixth week, with much hemorrhage, operated upon in Jefferson County with bad aseptic surroundings, and before we knew so well how to guard against infection. The patient died three days after the operation, from septic peritonitis. Another case was where the operation was performed for an enormous intra-peritoneal hemorrhage, followed by profuse shock, which had occurred ten days previous, and in which placenta and membranes were removed. While this woman had no diffuse peritonitis, she probably died of some sort of infection. This may have developed in the uterus, for before and after the operation, there was a profuse discharge from the vagina, and seventy-two hours after the operation, she expelled from the uterus a decidual mass two inches long, one inch wide and one-half inch thick, which may have been the remnant of a uterine abortion. The uterus was the size of a two and one-half months' pregnancy.

While most of these cases should probably be operated upon by the supra-pubic route, many of them may be operated upon with entire success by the vaginal route. I formerly did much of my work by the latter method, having operated in this way upon about forty cases, with one death, but I now in most cases prefer the supra-cubic method.

As ectopic pregnancy seldom continues until the child is viable, I wish to report this evening a case operated on two weeks ago, where I removed a fully developed dead child with the placenta and all the membranes, and give briefly the treatment indicated in these cases with both the living and the dead child.

I did not see the woman until the day before the operation, and obtained no definite history that indicated a pregnancy of any kind, in fact did not get from the patient a detailed history of her trouble, as the doctor who brought her here from Shelby County said the abdomen began to enlarge on the left side about two years ago, but it had not increased much in size for fifteen months. The abdomen was symetric-

ally enlarged and free of nodular projections, and gave to the hand the sense of touch that is diagnostic of a large smooth myoma. She was greatly emaciated, and without the tumor would not weigh seventy pounds. Her pulse was 130 per minute. She had no elevation of temperature, but I was not able to learn if she had any since the tumor appeared. When the abdomen was opened the appearance of the tumor and the sense of touch were diagnostic of a myoma, with extensive central degeneration. There were firm adhesions to the anterior abdominal wall, the omentum and the sigmoid flexure, and upper part of the rectum. After the anterior adhesions had been separated, a gallon of pus was drawn from the tumor through a large canula, and when an incision was made into the tumor, this full-grown child was removed. I then knew I was operating for an extra-uterine pregnancy that had developed to full term, and that I must remove the placenta and the



1—Umbilical Cord. 2—Placenta. 3—Gestation Sac and Capsule.

surrounding fetal membranes. In addition to the physiological attachment of the placenta to the pelvic structures and the colon and rectum, and the development of the gestation capsule for the ovum, which had unfolded the layers of the left broad ligament, and the mesentery of the sigmoid colon, extensive and firm inflammatory adhesions had formed, which required difficult and prolonged dissections to separate. The ovum had also dissected the peritoneum from the pouch of Douglas and the posterior pelvic and abdominal wall, thus remaining retro-peritoneal, with an anterior, superior and lateral capsule of peritoneal and connecting tissue.

The sac and placenta, as you will see from this specimen, were dissected out of the capsular attachment, leaving much of the pelvic cavity and the lower half of the posterior abdominal cavity divested of peritoneum, with broad lateral, thickened peritoneal wings.

The large arteries and veins on the posterior wall were uncovered and exposed, and the right ureter was entirely separated from its attachment for about eight inches, and was carefully examined by the fingers and sight to see if it had been torn. No positive evidence of injury of the intestines, ureters or blood vessels could be found, and the operation

was practically bloodless. The lateral wings of the peritoneal covering were sewed together in front of the spinal column, to below the pelvic brim, and the remaining capsule was sutured to the peritoneum in the lowest part of the abdominal incision. A large gum tube and a strip of iodoform gauze were introduced to the lowest point of the pouch of Douglas. I might also have drained through the vagina, but the woman's feeble condition would not permit of a prolonged operation. She was returned to bed with some increase in the rapidity of her pulse, but with no shock. Her resistence was much weakened by the long continued use of large doses of morphia, and a protracted diarrhœa. Notwithstanding the fact that the diarrhœa continued, and morphia in large doses is still required, she has gradually grown stronger and better, and barring unexpected complications, will recover.*

Since the operation I have learned that she had all the symptoms of extra-uterine pregnancy, and that about nine months after her period ceased, she had what she supposed were labor pains, which were finally relieved by large doses of morphia, after which all movements of the child ceased. I am unable to get the exact date of these supposed labor pains, but it was from twelve to eighteen months ago.

The report of Dr. E. S. Allen, from the pathological laboratory, of the pus surrounding the fetus is as follows: "Pus cells abundant, streptococcus pyogenes, staphylococcus pyogenes aureus and colon bacilli present. Pure cultures of colon bacilli were made. Infection evidently a recent one."

If extra-uterine pregnancy continues until after viability of the child, an operation should be performed before the death of the fetus, in the interest of both the mother and the child. This enables us to remove a living child, and also protect the interests of the mother, for the dangers of suppuration, sepsis, etc., and of an operation—which must ultimately be performed—combined, exceed the dangers of the primary operation before the death of the child. In the primary operation the entire gestation sac and the placenta should be enucleated, and this is much more easily done than in the delayed cases where inflammatory adhesions and exudations have developed. To do otherwise would be unsurgical. The real danger in the primary operation is hemorrhage, but by the proper use of forceps and gauze pressure, this may usually be successfully controlled. The vessels that bleed freely when torn, contract quickly, and the current is relatively feeble.

* Recovered and left Hospital at the end of fourth week; cured of diarrhœa, and is taking no morphia.

DISCUSSION.

DR. ABELL: I am certainly grateful to Dr. Wathen for the exhibition of this most interesting specimen. Personally I have never met with one so far advanced, and consequently have been greatly interested in the case. I do not wish to discuss it, but prefer to listen to some of the older gentlemen who have had a richer experience.

DR. MARSHALL: I cannot discuss the case. I know absolutely nothing about it. I have had quite a large experience in obstetrics, but have never met with a case of extrauterine pregnancy. I hope I never will. One point that strikes me about these cases is that you cannot theorize in abdominal work as you can in other parts of the body, and that when once in you have to keep on going until you see a way to get out.

DR. IRWIN: This is one of the cases that the general practitioners see first, as the Doctor has said, but the interest attached to this case is far greater than any ordinary one, in view of the fact that such a condition as this can and does occur. We have an absolute demonstration here of one of the most interesting facts that could be brought before any society, and within these walls we are making history in exhibiting that which in a lifetime we may never see the like of again—a full-grown child developing within the abdominal cavity outside of the uterus, living sufficiently long to have attained a full term, normal size, and then dying, and at the end of eighteen months after conception this child is removed from its abode outside of the uterus.

The skill required to do such an operation reflects great credit upon the abdominal specialists. An operation of this kind fifty years ago would have been heralded by the Associated Press throughout the entire world as one of the greatest achievements that had ever been accomplished. To-day it is not common. Others have done similar things, but that does not lessen the magnitude or importance of this operation. This surgeon has saved the life of the woman after this child had been in the abdominal cavity for eighteen months.

There is one point that I would like to have Dr. Wathen to tell us about and which is of great interest to us general practitioners, and that is what are the diagnostic symptoms of ectopic gestation before rupture occurs. We would like to be able to make a diagnosis. There are so many diseases with which an ectopic gestation may be confounded that it would be interesting to know if there is any one diagnostic point before the more dangerous condition of rupture occurs.

DR. ED. GRANT: I have been greatly interested in the paper and also in the discussion. This teaches us as general practitioners the importance of studying the symptoms of rupture in extrauterine pregnancy. I have unfortunately met with two cases in the course of my career as a practitioner, and they have impressed upon my mind the importance of studying these symptoms carefully, and avoid brushing them aside with

little thought, thinking that they are hysterical women or that they are suffering with colic. We must think of the symptoms of ectopic pregnancy when these cases present themselves, and in that way we will be able to save lives. Dr. Irwin has said that the operator has saved the life of this individual, but the general practitioner might have saved the life of two people. The life saved has already been wrecked, and she has become a morphine habitue, and if she gets over this her life will be of but little value compared with what it might have been had this condition been discovered by the general practitioner at the proper time.

DR. GRIFFITHS: I want to thank Dr. Wathen for his paper and the presentation of this very rare and most interesting specimen.

DR. MCMURTRY: I am very glad of the privilege to have heard the paper and to have seen the specimen, and I think that the remarks of Dr. Irwin and the other members are very appropriate, as the specimen would elicit the interest of any society in the world.

The subject that the essayist introduced is a very comprehensive one, and the condition he describes presents itself in a great variety of ways. Our knowledge of this subject, as you all know, is comparatively new.

Two eminent French surgeons, Bernutz and Goupil, by a postmortem investigation, discovered this pathological condition and reported it. The report was translated into English, but the subject attracted no attention until Lawson Tait did the operative work, and since then it has been one of the greatest triumphs of modern pelvic surgery. I might say that very often a case of ruptured tubal pregnancy cures itself. These are the cases that were known in the old literature as cases of hæmatocele. There may be a rupture of the tube with a moderate amount of hemorrhage into the peritoneum, the hemorrhage is disposed of by the peritoneum, which, we know, has a wonderful capacity for disposing of effusions, and the woman gets well. Rarely the fœtus may develop and the child escape at full term into the abdominal cavity. We have an extreme illustration of this variety in the specimen exhibited this evening.

In cases of primary rupture it is wonderful what diversity they present. One of the most beautiful actresses ever known on the stage was riding in the suburbs of Paris, and she stopped at a little shop to get a glass of buttermilk. She became faint and fell. She was carried across the street to the office of a physician and died in a few hours. A postmortem was made by an eminent physician in Paris, and he announced that she died of uterine apoplexy. This illustrates how a postmortem, with all the facts lying before us, may be without profit. She had an abdomen full of blood and a ruptured Fallopian tube. This illustrates the extreme cases, and are very rare. It is wonderful what some of these women will stand. With a ruptured tube and an extensive blood-clot in the abdomen, they will be transported two or three hundred miles, or will go about their house work. I recall a case last September of a woman with a ruptured tube and a blood clot in the abdomen for eight weeks.

The blood-clot had caused an adhesive peritonitis, and the diagnosis was not known until the abdomen was opened. As soon as the incision was made the fœtus appeared lying on top of the blood-clot.

Now, when it comes to the treatment, Mr. Chairman, which is the subject of the paper this evening, I think there is no difference of opinion; that is practically settled. Dr. Irwin brought up an interesting point, and that is just how the diagnosis can be made before rupture of the tube. We have many surgeons who read papers before societies who have made the diagnosis before rupture, but I believe that in the majority of cases the diagnosis is made after the operation is done. We all know how we can be deceived. If a man does an operation and finds a condition which confirms a suspicion he has had, in the course of two or three weeks he goes into a medical society and believes that he made the diagnosis before the operation was done. This is the result of cerebration after the operation. I believe that the diagnosis cannot be made before rupture, because there is nothing but a little thickening and enlargement of the tube, and, as these cases have a previous history of inflammatory disease, we cannot tell whether it is a pyosalpinx, hæmatosalpinx, or whether it is a tubal pregnancy.

In regard to the treatment of the condition, Mr. Chairman, there was one thought that occurred to me while Dr. Wathen was reading his paper which I wish to suggest, and that is, while the long standing of the case after death of the fœtus produced suppuration, that suppuration was subperitoneal and enabled an operator of skill to handle without soiling the peritoneum; so that, while that is to be looked upon as a serious complication, yet it is not so serious as a slight suppuration if present with a live placenta, and the long time that elapsed after the death of the child allowed the placenta to shrivel up so that the removal of the placenta in this case was accompanied by little loss of blood. The length of time that elapsed after the death of the child did that much in favor of a safe operation.

Now, when it comes to the treatment of these cases, it all centers upon the treatment of the placenta. This has been exceptionally presented here this evening, and, as one of the speakers has said, this Society will never see another. I doubt if the essayist will ever see another like this. I do not know of another case recorded that is like this. When we come to deal with these cases, the delivery of the child when it lies loose among the intestines is an easy task compared with dealing with the placenta. One of the difficulties is that shown by Mr. Tait that in many cases after the child dies the placenta grows under some circumstances, and the circulation remains quite a length of time after the child is dead and the maternal circulation has ceased. Now, when the placenta is found, as in the most fortunate cases, over the uterus and over the broad ligaments, by reaching the trunk arteries that supply the uterus and the broad ligaments, you can secure them with clamps and enucleate the pla-

centa. But when in other cases the placenta is attached to the intestines there is great danger from hemorrhage. Mr. Tait in some of those cases marsupialized the sac and packed with gauze with a view to have the placenta come away. This succeeded in some, and some died of infection.

The cases that are successful are treated just as the essayist advises in his paper. Enucleate the placenta, but in many cases this is a most fearful undertaking. I remember a few years ago I operated and removed a full-grown child. The woman passed through spurious labor a month before the operation. The child was found and removed and the cord tied, and I began the enucleation of the placenta, that was spread over the sigmoid flexure of the colon and intestines. I have never seen any hemorrhage at the operating table so fearful. I do not believe the opening of the femoral vein or any of the great vessels could have impressed the operator more. In enucleating the placenta the whole field was filled with blood and the pulse sank immediately. The patient lived twenty-four hours, but she was lost in removing the placenta. Another method of dealing with the placenta is to cut the cord off and close the abdomen and leave the placenta to be absorbed, which in certain cases is successful.

The efforts of nature to deal with a full-grown child in the abdomen are very resourceful and present a very varied course. In some cases the child undergoes a process of induration and remains there for a life-time. In other instances the peritoneum digests all of the soft parts of the child, so that the bones will remain to work out through the rectum or bladder or other region.

The subject presented is one that has many sides, and it has been illustrated here to-night in its gravest manifestation with the best possible result.

DR. WATHEN (*closing*): I have but little to add to what I have said, as Dr. McMurtry has answered the question asked by Dr. Irwin in regard to the early diagnosis. Recently I heard a gentleman read a paper before one of our large societies upon the subject of extrauterine pregnancy, in which he claimed that the diagnosis, by careful observation of the patient, could be easily made before the rupture, and he did exhibit several specimens that he had removed which had not ruptured. Dr. McMurtry has suggested that probably some surgeon might not have been able to diagnose these cases before rupture, though he found some tumor in the pelvic cavity, on the side of the uterus, that needed removal, and afterward felt satisfied in his own mind that he had diagnosed the case before he operated. This diagnosis is very easy after you have opened the abdomen. However, there are certain symptoms that may enable us to diagnose ectopic pregnancy that are manifested in some cases before complete rupture of the tubes. First, the cessation of menstruation and the other symptoms of pregnancy, followed by some sharp pain upon one side of the pelvis, with bleeding from the uterus and throwing off of decidual shreds. This may occur before complete rupture of the tube, but these

symptoms are usually so poorly developed that the attention of the physician is not directed to ectopic gestation only in the rarest exceptions. But, in view of the fact that so few of these patients die from the primary hemorrhage, either intra-peritoneal or intra-ligamentary, the most important thing is for the general practitioner to learn how to appreciate the significance of the symptoms of rupture. This is easily done, because of the pain in the pelvic region more upon one side, often associated with hemorrhage from the uterus and exfoliation of the membranes and internal bleeding. If the internal hemorrhage is considerable, we have the evidences of shock, and, if the rupture is intra-ligamentary, we will find pressure upon the bladder and upon the rectum and interference with micturition and defecation. So now the important question is to have the attention of the general practitioner, who always sees these cases first, called to the symptoms that accompany rupture of an ectopic pregnancy, so that he can have the surgeon operate immediately, as this is the only treatment that will cure most of these cases. They may, with slight rupture, recover without operation. But while this is true it does not indicate that we should operate in every case diagnosed when primary rupture occurs. I have unfortunately not been always promptly called to cases of primary rupture. In many of my cases the rupture occurred some time before I saw them, and the diagnosis, as a rule, had not been made by the attending physician. In some of these cases the pelvis and lower abdomen contain from a pint to a half-gallon of clotted blood, the bladder and rectum being interfered with, and the clot in some cases extending almost to the umbilicus.

It is true that much hemorrhage may follow efforts to remove the placenta at term; but, while that is true there have been within the last ten years quite a number of cases reported of complete enucleation without fatal results. I remember Dr. Lusk some seven or eight years ago reported a case to the American Gynecological Society operated successfully, doing a complete enucleation at term and saving both mother and child.

When we depended upon the older methods, with our then imperfect knowledge of how to control the blood supply to the uterus, and without an abundant supply of long forceps, then the danger from hemorrhage was much greater than now. We know where the blood comes from, and we know how quickly we may get to a point proximal to the hemorrhage and control the main stem of the vessel. This can be done in every case in the early months of pregnancy. I remember two cases I operated on for ectopic gestation about the fourth or fifth month, in which the hemorrhage was very easily controlled in the removal of the placenta by reaching down quickly and pulling up the broad ligament and putting a clamp over it. One was a case of Dr. Morris'. One case was referred by Dr. Pusey. In another case there was extensive previous hemorrhage. At this time you can more easily get to the blood supply in the broad lig-

ament than you can after pregnancy has gone to term. The placenta may finally become attached to other adjacent structures and great vessels may come up to the placenta from these structures that will cause very serious hemorrhage if we do not control it. Therefore, we are not at term so well satisfied about getting at the vessels in controlling the hemorrhage as we are when we find the attachment of the placenta to the broad ligaments alone.

THE PROSTATE GLAND, WITH SPECIAL CONSIDERATION OF THE TREATMENT OF POST-OPERATIVE INCONTINENCE.

BY DUNNING S. WILSON, M. D.,

IT is with some degree of trepidation that, as a general practitioner, I approach a subject usually confined to the realms of surgery, but it has seemed to me that it is not altogether inappropriate to view it from the standpoint of the clinician, and to discuss those portions which naturally belong to him, namely, the ante-operative and post-operative conditions. If we will realize that the family physician is generally the one who recognizes symptoms calling for surgical aid, that he is held responsible to a great extent for the results obtained by surgical procedures, and must bear the brunt of ineffectual or impartial cures, whether resulting from faulty operative technic or arising as unavoidable complications or sequelæ, I will be pardoned for thus trespassing within the sacred boundaries so zealously guarded by our good friends, the surgeons.

If as someone has wittily said, "man spends his first forty years trying to make his bread and the last forty trying to make his water," then the majority of mankind will owe a great debt to the men who have put within our reach the ready making of both bread and water.

The gland itself has occupied the attention of physicians and surgeons since the time of Hippocrates, but it has only been recently that it has been possible to examine it histologically and pathologically, and only very recently that cystoscopical examinations have been used as a means of more thoroughly understanding the position and relationship of the prostate, especially as an examination preliminary to operation.

With the gland under normal conditions, we have little to do, but in order to appreciate a pathological condition it is necessary to be familiar with normal structure and relationship, and though I believe all are more or less familiar with it, it may not be altogether out of place to call attention to the anatomy in a brief manner. The prostate is a compound tubular gland, the acini which may be regarded as highly developed urethral glands opening by a dozen or more ducts on the free surface of

[*] Read before the Louisville Society of Physicians and Surgeons, May 18, 1905.

the urethra, are supported by connective tissue and involuntary muscle fibres, bundles of the latter passing in all directions between the alveoli, and in many places constituting almost the entire tissue separating the adjacent acini.

On each side of the urethral crest, which occupies the posterior surface of the prostatic portion, a depression marks the position of the prostatic sinus into which open the orifices of the prostatic ducts. The sinus pocularis or uterus masculinus, occupying the anterior part of the urethral crest, is to be regarded as homologous with the cavity of the vagina and the uterus; the layer of involuntary muscle belonging to the wall of the diverticulum, corresponds to uterine muscle tissue, while the small tubular glands within the mucus membrane lining the sinus are the homologues of those of the uterus. The prostate which is developed as a thickening of the urinary tract, cannot be regarded in any sense as homologous with the uterus, notwithstanding the apparent close relations with the sinus pocularis, as these relations are only secondary and are attained in the course of its subsequent growth.

Branches of the adjacent vesical, hemorrhoidal and pudic arteries supply blood to its interior. The lymphatics originate within the connective tissue septa as interfascicular clefts; these unite with definite channels, which in turn form the larger lymphatic trunks, accompanying the veins in their course to the neighboring deep lymph glands. The gland depends, principally, for its nerve supply upon the hypogastric plexus.

Normally the gland, about the size of a chestnut, having its base lying immediately beneath the neck of the urinary bladder, separated from the muscular walls only by a layer of fascia, and its apex directed forward into the deep perineal fascia, is suspended in the anterior fibres of the levator ani muscle, called by Santorini the levator prostatæ. The gland also receives support from the bladder and rectum and from the true ligaments of the bladder. The ejaculatory ducts of the smeinal vesicles and vas defereus in their course through the posterior mid septum of the prostate, divide the gland into two lateral lobes, finally emptying themselves into the floor of the prostatic urethra on each side of the caput gallinaginis, and posterior to the orifice of the sinus pocularis. It might be mentioned in passing, that the whole gland is enveloped by a fibrous capsule distinct from the recto vesical layer of the pelvic fascia, allowing for its ready enucleation.

As said before, under normal conditions, we have nothing to do with the gland, but only when inflammed or hypertrophied, is our attention directed to it; these diseased conditions giving rise to symptoms which call for medical and surgical interference.

This is not the time or place to discuss the subject of acute inflammation due to gonorrheal or other infection, it being my intention tonight to touch only on the chronic sclerotic and hypertrophied conditions.

arising late in life, due to whatever cause. Interesting as it would be to discuss the causes of prostatic enlargement, it is after all of but purely academic importance and from a practical standpoint has no bearing whatsoever upon the method devised to give relief.

The symptoms on the other hand, which cause us to suspect prostatic trouble, are of great importance.

Subjective Symptoms.—There seem to me to be two cardinal symptoms, which would lead one to suspect a guilty prostate; the first is an increased frequency of urination, particularly, at night, and the inability on the part of the patient to expel the urine in a normal parabolic curve, and though they may later complain of difficulty of starting the urine, and a certain amount of discomfort which they refer to the rectum, the first mentioned symptom seems to me to point unmistakably to prostatic disease.

As the disease progresses, various symptoms such as pain, frequent urination, retention of urine, and sometimes chill and fever are gradually developed, having for their source the enlarging gland, residual urine, the formation of vesicular calculi and cystitis.

Objective Symptoms.—To my mind the first and most conclusive evidence of prostatic enlargement is reached by digital examination of the prostate through the rectum after which urinary examinations should be made, the bladder being catheterized after urination to find out the amount of residual urine. Last, but by no means least, a thorough and painstaking exploration of the urinary canal and bladder with urethrascope, prostatoscope and cystoscope provided, of course, there is no contraindication for the passage of said instruments, such as stricture, an impassible bar at the neck of the bladder, or such intense congestion of the parts as to preclude such examination.

With the cystoscope we may assure ourselves of the exact condition of the bladder, as well as avoid the possibility of overlooking bladder calculi, etc.; in fact, we may make ourselves masters of the situation, which may be attained by no other means.

The diagnosis having been made, the character of operation must be decided upon, and here we have a most enticing field for discussion, but tempting as it is I will content myself with saying but a few words and will leave the subject for a more able handling by the surgeons.

I believe that the Bottini operation is an almost unjustifiable procedure, as it is unsurgical in every sense, and I cannot think of any circumstance where it should be used unless for the temporary relief of retention and then I believe there are other methods which might be more advantageously used.

We must not lose sight of the fact that however much we may decry the Bottini operation to-day, its inventor is to be credited with having opened up an entirely new and interesting field, and through the interest he elicited we have been given to see the gradual evolution of surgery

of the prostate until now we have a long line of men who have distinguished themselves in this particular region. The names of Belfield, McGill, Freyer, Goodfellow, Deaver and Young will ever be held in grateful remembrance for their splendid achievements.

I cannot refrain from saying that there are two methods which appeal to me as proper under certain circumstances, the superpubic route so ably championed by Belfield and Freyer and the perineal eneucleation so simplified by Young and others.

Both procedures have a place in the relief of prostatic enlargement, and we should not narrow our vision so as to lose sight of the advantage of each operation in its proper place.

I leave this portion of my subject with great reluctance, as it holds out much food for thought, but it is not in the province of this paper to give the time to it which it deserves, and I have purposely omitted the subject of "Catheter Life," as I now believe that it should sink into oblivion.

There is, however, a condition arising after operation, to which I want to direct your attention, as I do not believe it has been given the study which it warrants. I refer to those cases following removal of prostate, that show an incontinence which does not subside in two or three months, but show a tendency to continue indefinitely.

It has appeared to me that in reporting the results of the different operations, incontinence has been treated with a silence which is often a curious habit of physicians and surgeons who give no time to the consideration of such "mere trifles," which might affect the beautiful story of their cures.

Without occupying your valuable time in considering the percentage of cases of incontinence arising after operation, I will only ask that you concede the fact that it does exist and that it should have closer attention in order, if possible, to relieve the patients of the annoyance.

To find means which will relieve or cure, it is necessary to study the cause, and this opens up a wide vista where several opinions may be considered.

Dr. E. Wood Ruggles believes that incontinence is caused by injury to the external sphincter and by the paralysis of that muscle, either by injury to nerve through rough handling, extreme pressure or the severing of the nerve supplying the muscle with motile power. Others consider that injury to the neck of the bladder is accountable for incontinence, and still others claim that scar tissue as it hardens, forms a tube which does not allow of perfect closure.

To my mind, the most satisfactory approach to an exact explanation of the cause of incontinence, is given by Dr. Ruggles when he lays the blame not on any injury to the bladder sphincter, but to a paralyzed compressor urethral muscle.

However, though I am willing to admit that there may be cases

where the nerve is injured sufficiently to cause paralysis, and therefore constant dribbling, I am by no means ready to accept this theory as explaining the high percentage of incontinence following operation.

Prior to operation we have several abnormal conditions, and in order that we may understand the development of incontinence, I will enumerate them. First, a slow growth of the prostate which as it enlarges pushes backward, downward and forward, throwing the tissues and muscles out of their normal relation. As it grows it acts as a bar at the neck of the bladder, causing retention, pressing upon the vesical sphincter posteriorly and anteriorly interfering with the proper contractility of the external sphincter, at the same time acting as a base for this muscle to contract upon.

It may be stated as an objection to these premises that the external sphincter is in the membranous portion and not in the prostatic urethra, but I offer in rebuttal, the statement of Gray, that "each segment of the muscle passes inward, and divides into two fasciculi, which surround the urethra *from the prostate gland behind* to the bulbous portion of the urethra in front, and unite at the upper and lower surfaces of this tube, with the muscle of the opposite side, by means of a tendinous raphe."

Furthermore, while *anatomically* we may separate the urethra into certain portions for the sake of more accurate study, yet *fuctionally* it is difficult to appreciate where one portion begins and the other ends.

Following the operation we find an opposite condition to exist. The bladder neck has lost its support, the whole prostatic area is relaxed and the cut off muscle finds that it has to make greater contraction in order to entirely shut off the canal, and it misses the enlarged prostate as a fulcrum. The part played by the prostate as a fulcrum can be more easily appreciated if you will close your fingers by contracting the muscles, at the same time using a table or wall against which to press, you are thus able to close your fingers more tightly, but by contracting the muscles without pressure upon a firm base you are unable to make such firm and continuous closure.

The incontinence attendant upon these cases is not then due to any of the causes suggested above, but has for its source the condition produced by the absence of the enlarged prostate, which has for a considerable time occupied this area, and for which the tissues have learned to make accommodation, as well as probably some slight injury to the cut off muscle itself.

Treatment of the dribbling consists in bladder irrigation, with the addition of filling the bladder full of the irrigation solution, instructing the patient to voluntarily contract his compressor urethra. After doing so he is told to expel a small portion and again shut off, thus dividing the evacuation of the fluid into from five to six conscious and voluntary efforts.

Instructions are given that when the bladder fills with urine its

evacuation should be divided into five or six portions in like manner. By this method we gradually bring the cut off muscle up to its normal tonicity and as a result the incontinence ceases.

I will encroach upon your patience to briefly outline two cases in which this method was used with gratifying success :

CASE I.—J. B. C. Age sixty-one years. Operated on by Dr. Abell, August 2, 1904. Recovery after a long and trying period complicated by an infective epididymitis, which caused the greatest anxiety. The infection must have been latent, as he had a slight swelling of the testicle prior to operation. Incontinence developed when patient was able to be up and continued uninterruptedly until February, 1905, being most annoying during an attack of pneumonia which ensued in January.

CASE II.—Male. Age sixty-seven years. Operated on by Dr. Bryson, of St. Louis, five years ago, since which time he has had a most aggravated case of incontinence, requiring the constant wearing of a urinal and making his life burdensome.

Cystoscopical examination of both cases revealed nothing abnormal but a congested appearance of the trigones which extended along the prostatic urethra. Both patients were given the same treatment. Almost immediate relief followed in the first case, and the second case showed such marked improvement in three weeks that the urinal was discarded, and I am happy to say the patient is now able to hold his urine without any inconvenience, though he occasionally finds that his shirt is slightly moist with a few drops that linger in the urethra or pass through the yet imperfectly contracting muscle.

The unexpected and remarkable results obtained in these cases are the outcome of a careful study of the anatomy and physiology of the parts, and I cannot believe that the restoration of the nerve in the short space of a few weeks explains the success achieved. A more pleasing explanation to me is that in giving the cut off muscle voluntary and regular exercise we increase its strength and contractility, producing in all likelihood a hypertrophy at the same time which adds its share to relieving the incontinence, and it is no more illogical to expect such result to follow the exercise of a muscle or muscles in this region than to expect a corresponding increase in an athlete's muscles while in training. I fully appreciate that the very simplicity of the treatment outlined argues against its efficacy, and I also realize that the report of two successful cases does not carry with it absolute and convincing proof of its infallibility, but I have presented this paper for your just and impartial criticism, and I trust that you will weigh the matter carefully before condemning it.

DISCUSSION.

Dr. Abell: I have operated on twelve cases, eleven of which are now over two years standing. One had partial incontinence following for five months, this occurring in the day. The rule in all reported cases is for the incontinence to occur in the day. In my other cases there were a few drops after urination. In one case this persisted for five months. The perineal is the method, which is followed by incontinence. The compressor urethra is stretched and cut in both methods. In Young's method the central tendon is cut and incontinence is the result until this becomes fixed.

Dr. Jno. R. Wathen: I think this condition gives us much to think about. The method presented by Dr. Wilson I think exceedingly good, and it should be brought to the notice of the profession in general. The complication of incontinence, I have never had. No two cases are alike. In my five cases, no two were alike. I should like to ask why one case had control for two weeks and then incontinence followed.

Dr. Blitz: I would like to know if cystitis has anything to do with the incontinence.

I wish to present the following case—May 18, 1905. M. W. Female, age twenty-eight, married. Family history good. Had usual disease of childhood. Typhoid fever at age of fourteen. Pneumonia two years ago. Past four years complained of skin lesions, which were first noticed on the face as vesicles. She always opened them as soon as they made their appearance. Those which were opened left cicatrices. The entire dermis was more or less involved. She is losing weight for last few months, appears aged and shows signs of considerable systemic disturbances. On account of the blebs and her general condition it is probably pemphigus.

Dr. Dunning S. Wilson (*closing*): Someone inquires as to why incontinence may cease for a time and then recur. I am forced to say that I have been unable to study all the phases of the subject and can therefore not venture an opinion further than to say that loss of control may come about through pressure, position, cystitis or inattention to exercise. I believe that the cut off muscle is always responsible, especially when we realize that normally, incontinence is prevented by the compressor urethra. Ruggles has shown this most ably when he states that normally the vesical sphincters relax as soon as the bladder is filled with urine, the fluid passing down until it meets with the contracting cut off where it awaits evacuation.

TRAUMATIC NEURASTHENIA.

BY CARL WEIDNER, M. D.

Professor of Pathology and Physical Diagnosis, Kentucky University.

IT is not my aim to-night to cover all the various types of neurosis, as hysteria, neurasthenia, chorea, etc., but I shall confine my remarks especially to some of the features of a class of nervous disturbances following accidents, without any gross anatomical lesions in either the central or peripheral nervous system, and therefore called by Strümpel "the traumatic neuroses," or accident nervous diseases. When we say, however, that there are no anatomical changes and speak of them therefore as functional disturbances of psychical origin, we must admit our ignorance on the subject of the finer nervous pathology, for but few of us shall admit that there really are any disease manifestations without some anatomical pathological lesion, be it ever so minute in extent or temporary in effect. The difficulty of proof lies not only in the technical difficulties of histological examination of the nervous apparatus, but also in the lack of opportunity for making these examinations, as but very few cases terminate fatally.

Experimental pathology has given us some valuable information. Hodge caused artificial exhaustion of the nerve cell in sparrows and found that in normal fatigue the nuclei decrease in size, become irregular in outline, stain darker, and lose their open reticulated appearance; the cell-protoplasm shrinks and shows vaculization in the spinal ganglia or enlargement of the pericellular lymphspaces in the cerebrum or cerebellum and lessened power to reduce osmic acid. As normal fatigue is similar to neurasthenia, it may be reasoned by analogy that in the latter there are similar processes. Schmaus conducted experiments on rabbits by placing bits of wood over their spines and giving them repeated blows with a hammer. The vertebral canal was found to be uninjured, but spinal symptoms were produced and various changes found in the cord, fine granular degeneration of the ganglion cells, swelling and enlargement of the axis-cylinders, foci of softening, and fascicular degeneration. He concludes that in consequence of local injury we may have varying degrees of bad effects, from simple fatigue to severe organic change and glia-formation. While it may be questioned whether these or similar experiments apply equally to man, they still are more acceptable and plausible hypothesis than the old one of "molecular jarring." Traumatic and psychical shock, with the resulting vaso-motor disturbances, interruption of various important functions of the circulatory and respiratory apparatus, may account for certain temporary changes in the histo-chemistry of the delicate nervous structure.

But, more than the physical injury in these cases, there seems to be psychical effect, either immediately accompanying the accident, such as horrible sight of suffering, the cries of the injured, the agony of the

* Read before the Louisville Clinical Society, May 16th, 1905.

mangled bodies, and all sorts of horrible scenes; in addition to that, even if not injured himself, come the terror of personal danger, the mental agony, the fright, etc., affecting the victim profoundly; or following the accident, by a continuation of these or the fear of disability and financial ruin, business cares, and in many cases where damage suits are brought and are pending, worry and distress on account of these. The physical severity of the trauma will determine more the physical and local results, as direct injury to the cranium or spinal column, that is, brain or spinal cord; but we are here dealing with cases where there is practically no marked injury, and where still certain symptoms develop that indicate a disturbed nerve function, prominent among which are those of hysteria and neurasthenia, functional paralysis, etc., which probably have their origin in a primary psychical shock.

Strümpel sums up the connection between the different processes most precisely in speaking of the various phenomena of psychically-shattered perceptive life, or "psycho-neuroses." The condition in part partakes of the nature of hysteria, as characterized by a disturbance of the normal relation between the mental and bodily processes; in part of hypochondria, as suggested by the spontaneous occurrence of abnormal sensations, and in part of a neurasthenia, which reveals itself by the production of abnormal pathological sensations through slight stimulation or exertion. If the will no longer controls the motor-centers, hysterical paralyses arise; if the normal control and inhibition of the will is lost, so that unreasonable will-stimuli are created and influence the muscles, hysterical twitchings, contractures, or convulsions take place. If a nervous stimulus arising in the sensory tract fails to reach the consciousness, there follows a hysterical anæsthesia; if there arise in the consciousness the images of expected or feared sensations, and if these images are intensified into actual subjective stimuli of consciousness, hysterical pains and neuralgia result. Thus the association of the different nerve-centers and nerve-paths explains the variance of the clinical phenomena. It is possible, and always seemed to me a very pretty theory, that the altered nerve force may be caused by a temporary or more or less permanent exhaustion of the neuronic protoplasm with the resulting shrinkage of the various dendritic and axonic processes, thereby cutting off the communication with other neurons and preventing the transmission of nervous impulses—as proposed also as one of the causes for sleep.

In some cases, however, there must be organic changes in the nerve centers. Examinations have shown that there are sclerotic changes in the brain and cord, and we find symptoms coming on years after the injury is received. In justice to the patient this ought to be considered in the request for damages. It would be well, instead of leaving the damages to a jury, that the jury be made up of two to four intelligent physicians who have had sufficient opportunity to study the case.

Neurasthenia is comparatively frequent in children. It has been ob-

served in school children and those of school age. P. Meyer has observed 2.6 per cent. in young children before school life, while the disease has been found in about 16 per cent. of those who have been examined after attending school, showing the effect of school with its exhaustive work and nervous anxiety. On the other hand, traumatic neurosis is comparatively unknown in childhood, except that I will say that I have found in cases where there is a neurotic tendency that we may have neurasthenia in these young persons even from slight injuries, and these cases usually run a prolonged course. V. Hoesslin suggests that only persons predisposed to neuroses suffered from traumatic neuroses, but that seems to be going too far. It might be well to distinguish between a neurosis that is caused by various exhaustive diseases, prolodged work, and so on, and regard them as only temporary, as they yield to temporary treatment, and those that are more permanent and dependent upon a constitutional degeneration may be classified as the severer forms.

Kothe sums up the question of the hereditary transmission of nervous diseases about this way: That if we have prolonged stimulation—either mental, so-called, or psychical—continually repeating itself, permanent damage may result to the nervous system, resulting in the various phenomena described by the collective name of "degeneration." A satisfactory definition of degeneration has been given by Moebius, who classifies therein such unfavorable deviations from the normal type which reach a certain magnitude, which are permanent, and which are capable of hereditary transmission. Under unfavorable conditions—that is, an accumulation of hereditary influences—there may result a progressive degeneration transmitted from generation to generation. Next to this hereditary disposition, it is accepted that syphilis, tuberculosis, gout, etc., play the most important role as causes of the various nervous diseases.

The symptoms of this trouble are varying, as we might surmise from previous remarks. We have, in the first place, very frequently as a prominent feature psychic disturbances. We frequently find the patient following the injury in a state of fear and irritability; the temper may be changed. The fear of accident may make him more nervous, and even prevent sleep and set up insomnia. Patients are disqualified for doing certain work done before the injury was received. I remember a patient who fell from a step-ladder, and for two months afterward he was unable to ascend a ladder, great nervousness and general muscular tremor setting in with each attempt. I have in mind right now the case of a young girl who worked in one of the factories in the city, and her hair became caught in the machinery, and a large bunch was pulled out from the center of the scalp. She received very little injury, but that girl suffered from profound nervous shock and feared to go back to the place to work. She suffered from severe headache and hysterical phenomena, pains over the body, along the neck and tender points over the spine. Sleeplessness commenced, which lasted for a number of months, and, in fact, the

patient has never recovered. In this case there existed a hereditary disposition to nervous trouble. In some cases there is mental depression approaching melancholia, loss of energy, and hypochondria. Often the patient attracts much attention to the injury. There may be sensory disturbances at the site of injury or in distant parts, and frequently in case of jarring, such as railroad accidents, there is pain in the back, the signs of traumatic lumbago, the peculiar walk on account of the stiffness of the muscles; there is paresthesia and hyperæsthesia, and there may be hemi-anæsthesia.

Among the sensory symptoms we find a contraction of the visual field, which is one of the most characteristic occurrences in these diseases. It is dependent upon a sensory anæsthesia of the retina. There are various tremors and twitchings of the muscles and paralyses effecting certain muscles, but these paralyses are characteristic in these cases in that they are not limited to one group or to any one nerve distribution; that is one important point in distinguishing them from lesions of the central nervous system. They very rarely give the electric reaction of degeneration, but, as a rule, there is an increased muscular and nervous excitability. The paralysis of the muscles of the leg is peculiar; the patient does not swing the leg, but drags it in a straight line.

Speech may be more or less impaired; we often find that the patients stutter. We usually find the pupil reflexes normal. The tendon reflexes mostly are increased. As to the circulation, the heart, as a rule, is irritable; the pulse becomes fast by making pressure over the painful areas, as has been pointed out by Mannkopf and Rumpf. We find that many of these patients have lost their sexual desires.

The eye symptoms are the most interesting of all, and I hope the gentlemen in discussing the paper will bring out those symptoms more fully than I have. One of the symptoms is the tiring of the eye from prolonged use. Patients will complain of tiring of the eye upon reading there is contraction of the visual field, as shown by the perimeter, and this contraction of the visual field is increased as the patient is asked to make repeated trials. At first there may be a fair-sized field, but after prolonged examination it will narrow down. The field also changes from day to day. One of the most interesting features about the eye is the temporary amaurosis; the patient is blind in both eyes, and I imagine the oculists have difficulty in arriving at a diagnosis of the trouble, as we know that cases last for hours and last for days, and cases are reported lasting even for months, or even years. The lids are lifted with difficulty. Often there is irregular color-blindness.

The disturbances of digestion are considerable, and we have a lack of nutrition and a loss of weight, and in some cases we have excessive sweating. I have a neurasthenic patient that shows this excessive hyperidrosis. She is not able to do any needlework because of the sweating of the hands.

The urinary symptoms are more or less indefinite. The patient may complain of inability to pass water. As a rule, there are no important clinical symptoms. The urine very frequently presents an increase in the phosphates and sometimes the oxalates.

The prognosis is uncertain in most instances. Many authors tell us that these patients will get well in a few years; some say in five years, but that is a difficult thing to say and depends upon the nature of the injury. If we have an injury where there is an organic change, the prognosis is more grave and the injury more prolonged.

The diagnosis is a very interesting point and ought to be made from the sum of the symptoms given, though the patient may complain of symptoms which make it difficult to tell whether it is really disease or simulated disease. The examination should be made with care and should be made quietly without much talking, and the questions ought to be put guardedly, not suggesting any part of the trouble. The answers ought to be noted down on paper. There ought to be no discussion of the patient's case in the presence of the patient, because he will grasp every little point and magnify it when other examinations are made, as is frequently done where the patient seeks damages from supposed injury and is repeatedly examined by different doctors.

The motor symptoms are quite interesting. In traumatic paralyses we have absent the reaction of degeneration as the most prominent symptom. The attacks come on suddenly and disappear suddenly and follow in the course of other hysterical phenomena and follow injuries. They are liable to disappear suddenly and do not follow the course of certain groups of muscles or nerve distribution. We often have to make prolonged and repeated examinations before any conclusion can be arrived at. In the examination the patient will complain of local anæsthesia. We ought to outline what the patient outlines as the anæsthetic area; we should test with a needle and make the patient tell us where he feels the pain. We might use an electric brush, first applying it over the anæesthetic area where he does not feel any pain, and then where he feels it, and then apply it so that the patient cannot detect it over one or the other, and we may be able to fool him this way and find whether he simulates pain or not; but that is difficult, because the patient watches every movement we make. The absence of the limitation of the sensory symptoms to the course of any one nerve is the most important point of all to distinguish from paralysis of sensation.

The eye symptoms are often most interesting, and I hope the ophthalmologists will give us their opinions of these cases. In a number of interesting cases there is a change of the color vision—a difficulty of seeing colors. Holden reports a case with not only a disturbance of the vision for colors or a change in the normal relation of seeing colors, but the patient also had diplopia, and he reports one case where the patient could

see a light fifteen feet away and see single, and farther away he would see double.

It is hardly proper for the jury to determine the extent of injury; the physician should be the best judge. The patient after injury is often requested by the shyster lawyer to sue for damages where he would not sue himself. Often the patient is entitled to damages and ought to have them. The patient will dwell on the injuries more and exaggerate them, and we ought not to agree with him because he says he has certain symptoms.

Treatment.—In neuristhenia the patient has an exhausted nervous system, and the best remedy that we have to overcome this is rest. It would be best in all cases if they had complete rest for a while, until all symptoms disappeared. In the traumatic cases where the patients seek damages, they are often made worse by the doctors' and lawyers' examinations. Many of the non-traumatic cases can be prevented in children by proper feeding, proper regulation of the school hours, and the regulation of life. In dealing with traumatic cases some patients ought to be kept in bed for six weeks or two months, following the rest cure, with good food. We do not need the extreme Weir-Mitchell treatment, but we need rest and the use of massage and exercise to keep up the muscular system and the nervous tone as much as possible.

One of the most important points in the cure of these cases is the proper physician—the physician that can control the patient and have influence over him. He need not only be an intelligent physician, but he must have influence over the patient. The doctor ought to suggest to the patient that he is doing well and that he is going to get better, and this will encourage him, and encouragement is a great thing. But in some of these cases I think that the best means of treatment is diversion —diversion of occupation and surroundings. If a patient has worked in a factory, let him go out to the farm, where he does not see the surroundings that were present at the time of the injury; in other words, rest in many instances is simply work in a different sphere. Massage and electric stimuli are of value. These patients should have sleep, and, when necessary to produce it, we should use the bromides, chloral, and codeine, or whatever may be necessary to rest the nervous system. Opiates ought to be refrained from because of the danger of establishing the habit. Besides the general treatment, the patients may need tonics. The glycerophosphates and strychnine should be used, because they increase the nervous force.

DISCUSSION.

DR. IRWIN: I am very much interested in the branch of neurasthenia due to traumatism which the doctor has presented in its various phenomena. I do not see why he separated traumatic neurasthenia from the other forms of neurasthenia. In its results traumatism is simply one of the

causes of neurasthenia and it is also a cause of many neuroses, especially hysteria. Disturbances whether peripheral or central brought on suddenly through fear or shock may give rise to any of the phenomenon that the doctor has described. When the peripheral nerves are involved in shock it is soon transmitted to the central nervous system and causes an arrest of function and an arrest of nutrition, and anything that arrests nutrition, be that arrest through the peripheral centers or through the central centers, depresses nerve function. When those changes, however, are simply due to temporary loss or nerve function, the function may be restored—the change is only relative. When the change has become permanent we know that a certain lesion has taken place. When the brain cells are so changed no power in medicine will restore them to their proper function. Consequently whether neurasthenia is due to the ordinary causes, such as long continued nervous worry, excessive mental fatigue, exhaustion of the general vital force of the system and to continuous bad environment and bad nutrition, or whether it is due to sudden shock as in railroad accidents it makes no difference; we know that it is neurasthenia, and in my judgment we cannot separate the traumatic form from the general forms of neurasthenia—the ultimate result appears to me to be about the same.

The doctor has very carefully in his way gone over the phenoma of neurasthenia. These disturbances we would expect, because when malnutritions takes place in the nerve centers we may expect a multitude of phenomena to occur, consequently I am at a loss to differentiate between that form brought about by traumatism and those forms brought about without traumatism. The phenomena due to failure of nutrition of the nervous system give us a very wide field for discussion. Neurasthenia means a perversion of the nervous system whether brought about by shock or other causes and in either case the results are about the same. We cannot expect a child to walk before it crawls; we cannot expect a horse to carry 5,000 pounds when he is able to carry only 1,000 pounds. There are a multitude of subjective and objective symptoms present when the nervous system is involved whether it be the brain or the spinal cord, or both.

This is an interesting subject and it would take a long time to discuss it to the full. An important point in the treatment of these cases is to restore the nutrition of the patient by giving him rest and proper food. We cannot obtain rest without sleep, consequently where we can bring about these changes we can bring about a reasonable amount of cures.

DR. LEAVELL: I just want to speak in relation to neurasthenia occurring in children as the result of traumatism. I believe that we are often prone to look lightly on the injuries occurring in childhood, and I think in operative procedures we are prone to leave off the anesthetic. Many operations are done on children without an anesthetic and great injury is done to the undeveloped nervous system. I think it would be

better for us to use the anesthetic more frequently in operating upon children. There can be no doubt but there is a hereditary tendency to neurotic conditions manifested in children. We find frequently parents of a nervous temperament begetting children who are more neurotic and respond to stimuli to a greater extent than more phlegmatic children. Children of the present day undertake to do work that I can remember as a child myself was done by children of an older age. This predisposes to nervous disturbances. We notice that a great many cases of neurasthenia in children come on during the later months of the school term, and I think it is due to too much work being done by the child before the nervous sytem is thoroughly developed.

DR. COOMES: I was much interested in the doctor's paper, and it is a paper of such extensive import that I hardly know where to begin, and I want to say that one of the most curious things in connection with the nervous phenomena is the disturbance of nutrition; that is the keynote to the whole thing, because the failure of the nerves to perform their proper functions, depends upon the faulty nutrition of the nerve cells and the nerve centers. The treatment is absolute rest.

I knew a great big fellow, almost a giant, who gave a good illustration of how absolutely the nervous system may be exhausted in a short space of time. He was on a turkey hunt in a dangerous locality and in a place where he might be attacked by bears and panthers. In the evening he shot a turkey and went to get it and he became as absolutely lost as if in the Dessert of Sahara. He was finally found but he was so thoroughly exhausted that he could not get on his horse. Nothing had touched him, but the fear of remaining in that wilderness all night where he might be attacked by wild animals had caused this exhaustion. This all occurred in ten minutes. I cannot understand any difference in the exhaustion in that case and in the case of a man thrown out of a railroad car, or a man waylaid on the highway.

DR. SATTERWHITE: I just want to make one or two points. The paper was an exceedingly interesting one, particularly in a medico-legal view. It is my observation in the past twenty-five or thirty years that we have more neurasthenia following traumatism than we had many years previously as we know that no one receives an injury that it is not considered with reference to a damage suit, and the worry connected with these suits is one of the particular factors in producing neurasthenia, and my advice has always been to claim agents that the sooner they settle with the injured person the better it is for the company and the man or woman injured. The injury may not only produce more or less trouble with the nervous system from shock or otherwise, but the mental trouble and worry connected with the damage suit aggravates it. This in my opinion causes an immense amount of nervous trouble. I have seen it in several conspicuous cases.

DR. GRIFFITHS: I just want to follow up Dr. Satterwhite's remarks. I find that to be my experience as an examining surgeon for pension. And I have seen a great many injured persons that nothing relieves so promptly as a settlement. The amount of that kind of trouble is simply marvelous. One has not the remotest idea of the extent of it especially among old soldiers who are trying to get a pension; they seem to get it on the brain.

DR. MARSHALL: There are a few points that I would like to discuss. I believe that we have functional diseases and organic diseases. I think that the difference as I have always claimed between the two is that the one is temporary and the other permanent. I think the term functional a desirable one where the lesion passes away and leaves no appreciable trace behind it.

Sometime ago I was reading a German authority on nervous diseases, and he spoke of heredity in these troubles, and he made it a point that it was desirable where the parents are neurasthenics to take the child away from its surroundings and to remove it to another home where it would not be exposed to the association of neurasthenics. Systematic effort should be made to overcome these tendencies in every way possible.

The point is also made by many authorities that alcohol is a common cause of hereditary nervous trouble—that alcohol predisposes to neurasthenia.

In the differentiation of the disease I think that sometimes the use of the anesthetic may be useful, and it is very well in some cases, especially where litigation is going on to use the anesthetic.

One other point in regard to the treatment. The use of strychnine has been mentioned. I think often where strychnine is used in the early part of the disease that it does harm rather than good, and it should be held in reserve and not pushed, because rest is a great need of the patient, and until there is some evidence of improvement it is better to hold back these stimulants, and then when exercise and effort is indicated then with moderate doses of strychnine, electricity, and massage, we will do more good.

One other point, that is in regard to the soporifics. They should be handled with a great deal of care and certainly should not be persisted in. I do not believe that they should ever be kept up for any length of time. While insomnia is a great bug-bear in these cases I think that the injury produced by these drugs is also a great bug-bear. I think to give them a good night's rest occasionally with these drugs is better than to keep them up regularly.

DR. JNO. R. WATHEN: This is a most interesting paper of Dr. Weidner's, and it has appealed to me along one line, that is, surgical injuries of the spine. At the present time we see many damage suits for these injuries, and I recently had a peculiar experience. I was called in consultation with Dr. Vance in the case of a male who suffered an injury on

the Southern Railway, and after examining this man several months after the injury we found local spots of tenderness, and one peculiar feature about the case was that the man had an elevated temperature. He gave every evidence of being severely injured. Recently several thousand dollars damages were awarded him. Before the case was settled he was walking on crutches and could move about only with great difficulty. I saw him two days afterwards and he was walking without crutches and seemed well. It certainly surprised Dr. Vance and me. It simply shows that these men may have an elevated temperature and all the evidences of injury.

Just a few days ago I saw, in consultation with Dr. Montgomery, a man injured by the City Railway, and it is hard to differentiate in these cases those who really deserve damages and those who do not.

As to treatment, I believe that in mild injuries the iodide of potash with the cautery and hot applications to the spine will relieve these conditions. In the serious injuries we have no remedy. I reported to this society sometime ago two laminectomies both of which resulted fatally. I had another case of injury of the spine, that of a man who had a fracture of one of the dorsal vertebra, but no paralysis; he was badly injured and yet in his case he was not able to get any damages. I notice that those cases that are awarded damages immediately recovered and that there were few cures in those who lost their cases in court. These are peculiar features that will bear much study and I always hate to see a case of this sort because I never know in my own mind the extent of the man's injury. We hate to see the man done an injustice and at the same time we like to see a correct interpretation of his condition.

DR. CHEATHAM: One thing is that the form field and the color field are contracted in the same proportion. In atrophy the form field and the color field are different.

DR. WEIDNER (*closing*): I thank the gentlemen for their discussion. As to Dr. Irwin's remarks in regard to the classification, some authors go so far as to discard the name altogether. I think it is a good name if properly used. There are of course many things included in it which ought not to be. I think that these traumatic cases have some peculiarities and manifestations that are different from the ordinary neurasthenias.

I agree with Dr. Leavell's suggestion as to giving anesthetics and I think in that way that we do away with shock to the nerve centers.

As to the statements of Drs. Satterwhite, Griffiths, and Wathen that these patients get better as soon as damages are awarded, it is not the experience of most neurologists. Most of them have a traumatic injury of the nerve centers and no amount of damages will get the patient well. Some patients do not care about damages.

In regard to the statement of Dr. Wathen that his patient had fever, I do not think the fever could have existed at any length of time without

any organic changes. I believe that a man may have a nervous pulse, but in the case of the temperature the man might have had some other lesion. Cases of this kind are hard to explain.

I think that the railroad surgeons are frequently biased in favor of the company. They want to save the company as much as possible.

I agree with Dr. Marshall that strychnine should not be used in the early stages of the trouble, and I did not say in my paper that it should be used in the early stage. Rest is the first thing; later on as the indication for stimulation arises strychnine should be given. I believe that we should relieve insomnia by trional and other means. Hypnotics should not be given frequently. If we give them we should give a good dose and get the patient to sleep.

I do not agree with Dr. Marshall in his differentiation of a functional disease from an organic disease. By a functional disease we mean one that shows a functional disturbance without showing any anatomical pathological changes in the structures.

Just one word more. I think it ought to be a rule in deciding a damage suit and when a man makes a statement as to certain injuries, that the physician should prove whether the patient simulates or whether he has any real trouble.

NARCOLEPSY.*

BY SIDNEY J. MEYERS, M. D.

Professor Medicine, Clinical Medicine and Hygeine, Louisville Medical College, etc.

GELINEAU, in 1878, first called attention to this disease and since the authorities only recite a few cases, I may well hesitate to report two in my rather limited experience. Very little has been written on narcolepsy and the literature on the subject must be gathered from what has been said on the general subject of sleep disorders. Therefore, in this necessarily brief paper, I have endeavored to embody the results of my reading and my own observations of this condition.

It is a condition of morbid somnolence characterized by an irresistable tendency to sleep during the day.

This sleeping may last for a few minutes to several hours; it may appear simply as a prolongation of the natural sleep. It may confront us as a persistent drowsiness. There may be frequent repeated attacks with long and perfectly normal intermissions, and again it may be periodical in character, the periodicity depending upon some peculiar functional derangement and not upon any specific, well defined disease. Many etiological factors have entered into this disease, and such an authority as Church and Peterson count among the causation factors,

* Read before the Louisville Neurological Society, June 6, 1905.

optic fatigue, syphilis, diabetes, uremia, brain lesions, and other diseases of this class.

I beg to differ here, for when this peculiar drowsiness occurs in the above conditions, they are symptoms of these several well-known entities and not the condition narcolepsy to which this paper is directed.

Narcolepsy is a true neurosis dependant upon functional disturbance on the one hand as in hysteria, and more often I believe upon imperfect metabolism and elimination on the other. The somnolence, accompanying narcolepsy is entirely distinct and characteristic in that it is a normal undisturbed sleep with no deviation in pulse, temperature nor respiration, while the drowsiness or coma, occurring in uremia, brain lesions, diabetes, etc., is especially marked by peculiar conditions only found in these several difinite diseases.

The patient often presents no symptom beyond the sleeping.

If the disease is purely functional as I believe it to be, depending in its entirety upon some form of perverted metabolism, there can be no defined morbid anatomy and the post-mortem lesions found such as emboli, thrombi, growths in posterior naries, etc., belong to the coincident disease and not to narcolepsy.

The clinical history shows a rather unbroken picture presenting few marked symptoms beyond the one cardinal evidence. It certainly brings terror and anxiety to those about for they must need be apprehensive when with the sudden onset, which is the rule, our subject looks as if death was about to occur. One may be stricken with this desire to sleep while in bed, in bath, in theatre, while riding, while engaged in conversation, socially, and in the most vital business affairs.

No cases are reported where patients have been seized while in other than a quiesant state, this unlike epilepsy. Probably while the economy is active nature is able to keep the excretions active, thereby preventing for the while any auto intoxication. The sleep is undisturbed, no muscular twitchings and patient is conscious of the condition but cannot fight off the desire. The sleep does not inervate them but rather leaves them refreshed, unlike epilepsy, where fatigue is the rule because of the great nervous explosion. The most important problem confronting the physician is to make a correct diagnosis. This of course is always a fact, but here especially as we have either to deal with a purely functional disease or with a decided cerebral inpingement, as in the case of petit mal, tumors, etc.

We must often consider narcolepsy in comparison with drug narcoses, where history, pupilary condition, pulse and respiration will help us.

Uremia with its coma may cause some entanglement, but a differential diagnosis should be readily made when arterial tension, precordial dullness, emaciation, edema and urinary examinations are considered. The drowsiness accompanying diabetes may cause a faulty diagnosis, but

a look at the urine and an inquiry in the previous condition of patient should clear up our case.

Brain tumors is easily excluded by the central symptoms which in narcolepsy are entirely absent. Sleeping sickness may be mistaken for it, but when we consider its geographical distribution, its specifity, etc., little confusion should arise. The only disease for which it may justifiably be mistaken is pettit mal and it is just this uncertainty in the diagnosis of these two conditions that tempted this paper. The importance in gravity differ widely, the prognosis must necessarily vary, the treatment is entirely upon different lines, and the patient and patient's family may be done infinite harm if narcolepsy is pronounced epilepsy, or vice versa. The differentiation is difficult and often is made after a lapse of weeks during which time the physician, who is generally absent, may witness several attacks.

We must bring to our assistance the previous history, whether or not trauma has occurred, must eliminate disease cause tissue regeneration in the central system. Previous state of health as well as hereditary tendencies should be inquired into. Environments and social life is important as it may be especially coducive to hysteria or to improper metabolism manifesting itself in anemia or obesity. The character of somnolence, the condition of muscular system during the attack, whether or not a vacant stare, a peculiar pallor, and any interference in pulse, respiration or temperature occurs.

From the above observations, personally and correctly made, I believe a correct diagnosis can be made and then a prognosis can be confidently given; which as to life is good, as to duration and cure depends upon the course, whether or not it can be modified or eliminated, upon the patient, whether or not you can control them. Better in those where it depends upon obesity, uricemia, etc. Not so good when anemia is the manifestation of the nutritive disorder. When hysteria is the disturbing element the prognosis as in all hysterical patients is merely a conjecture. Our treatment of these cases must of course be in accord with our views as to the causative factors, and must be directed to the sedation of the nervous system, to the building up in anemia or to depletion in obesity. This is generalizing, I will not burden you with drugs, rest, hydrotherapy, electricity, moderate exercise, diet and control, which you may advise as indicated.

CALCIUM OXALATE CALCULUS—Mulberry Calculus.

BY BYRON ROBINSON, CHICAGO.

Formula CaC_2O_4.

IT constitutes 10 per cent. of urinary calculus. It was described by William Hyde Wollastone (1766-1828), an English philosopher, in 1797. It may occur as the chief constituent of oxalate of calcium (CaC_2O_4) or be associated with other elements, especially uric acid, the different urates, especially ($Na_2C_5H_2N_4O_3$, $CaCO_3$) the phosphates, as a mantle, or peripheral layer, and occasionally some blood. This is due to the trauma of the calculus on the ureteral mucosa inducing hæmorrhagic endo-ureteritis. On certain portions of the surface of the calculus occasionally occurs a mantle of beautiful water-clear crystals, lending to the calculus a rare and brilliant appearance.

CRYSTALLIZATION.

Calcium oxalate crystallizes in well defined quadrate octahedrons—envelope or diamond shaped, with colorless, transparent, brilliant refraction or in "dumb-bells." The crystals vary in dimensions. The crystalline form does not occur in the actual composition of the calculus, but microscopical examination demonstrates groups of fine columns or radiating needle shaped processes. The most frequent and best known form of calcium oxalate crystals is the octahedron, which is formed by two pyramids with their bases in contact. One axis is frequently shorter than the other—flat octahedron which floats in a certain position in fluid. The larger octahedra are the most perfect. If two or four crystals are grouped there arises the four pointed or eight pointed star. These may be quadratic prisms terminated at the two extremities by pyramids. Quadratic tablets may be present. Besides, there is the dumb-bell, hour-glass, spheroidal, biscuit, axhead or spectacle form of calcium oxalate which is not crystalline and consists of two or more spherical forms, presenting the form of a dumb-bell. The different appearances of the crystals are frequently due to the position of observation. The crystals may be prepared artificially with HCl. The crystals should be mounted in glycerine.

Two dumb-bell crystals crossed appear like four spheroids lying in contact. Crystals of calcium oxalate are those formed within the tractus urinarius, that is, previous to urination, and are generally the large octahedra as well as the dumb-bell formed crystals. Oxalate crystals are those formed external to the tractus urinarius, that is, after voiding the urine and consist chiefly of the smaller octahedra and dumb-bell formed crystals.

The distinction between calcium oxalate crystals and triple phosphate crystals are: (a), the oxalate crystals present the distinct envelope form; (b), the oxalate crystals do not dissolve in acetic acid while

the phosphate crystals dissolve in acetic acid and do not present the envelope shape. The calcium oxalate crystals are distinguished from amorphous urates by being soluble in alkalies or acetic acid and by heat. Also the oxalates will not respond to the murexid test. Besides amorphous oxalates are rare while amorphous urates are common.

SOLUBILITY.

The crystals do not dissolve in acetic acid or organic acid. They are insoluble in cold water, alcohol, ether or alkalies. They are soluble in mineral acids (HCl, HNO_3.) This calculus occurs chiefly in acid urine. It may occur in alkaline or neutral urine. The specific gravity is the highest of the urinary calculus. The form of the calcium oxalate calculus resembles a mulberry, spheroidal, oval. The dimension varies from a hemp seed to that of a hazelnut. The color is yellowish or reddish and may be stained with black from blood pigment. The weight is marked. The nucleus or foundation of a calcium oxalate calculus (mulberry) may consist of uric acid and rarely a uric acid calculus may have a nucleus or calcium oxalate. The nucleus may be a blood clot. The surface of the calculus is thorny or warty. On account of the uneven rough surface, this calculus offers severe trauma to the ureteral mucosa on account of the irritation of its thorny, spicular surface on the tissue, inducing hemorrhage from the ureteral mucosa. The number is single or multiple. The texture consists of concentric laminæ deposited in undulating line about a nucleus. In color the layers may present shades of brown, light yellow, to green or black. When fractured it breaks with a sharp report into jagged, angular fragments. The fractured surface is amorphous. It is remarkably dense and the hardest of calculus. The age relation is practically negative; adults and children are attacked about even.

The test of calcium oxalate calculus is: In the blow pipe it is blackened and ultimately reduced to calcium oxide (CaO,) the oxalate being converted into carbonate and the carbonic anhydride is evaporated. Fragments of the calculus are insoluble in water, alcohol, ether, alkalies. It is soluble in mineral acids. Under the microscope it presents various sized envelope-shaped octohedra with brilliant refraction. The crystals will not dissolve in acetic acids. Seldom does urine furnish sufficient calcium oxalate (CaC_2O_4) for chemical examination. Calcium oxalate calculus casts a shadow with the x-ray with definite dimensions and contour. (See III and 3 calcium oxalate shadows, Plate Ia.)

Also plate IIa (34, 35, 37 calcium oxalate shadows); 42, shadows of uric acid and calcium oxalate, presenting a rather dim dimension and contour.

CLINICAL SIGNIFICATION OF OXALURIA.

Oxalic acid ($H_2C_2O_4$) occurs under physiologic conditions in small quantities in the urine as was first shown by Goldingbird and Prout.

Oxalic acid is maintained in solution in the urine, as calcium oxalate (CaC_2O_4), in small quantities by the acid phosphates of the urine. Oxalic acid ($H_2C_2O_4$) was first obtained from urine by Schunck in 1867. Perhaps one grain is secreted daily, however, some have reported seven grains daily. Oxalic acid ($H_2C_2O_4$) and calcium (Ca) have a

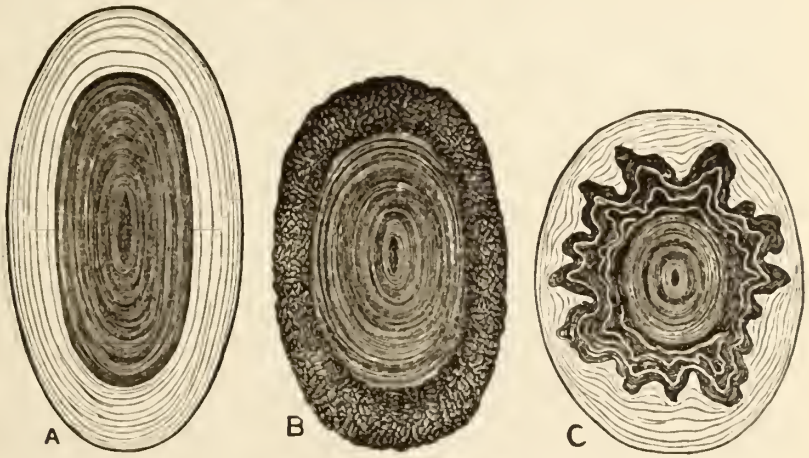


FIG. 1. — (Schede). Calculus. A — Nucleus of uric acid, periphery of phosphates. B — Nucleus of uric acid, periphery calcium oxalate. C—Nucleus of uric acid, middle layer calcium oxalate and periphery phosphates.

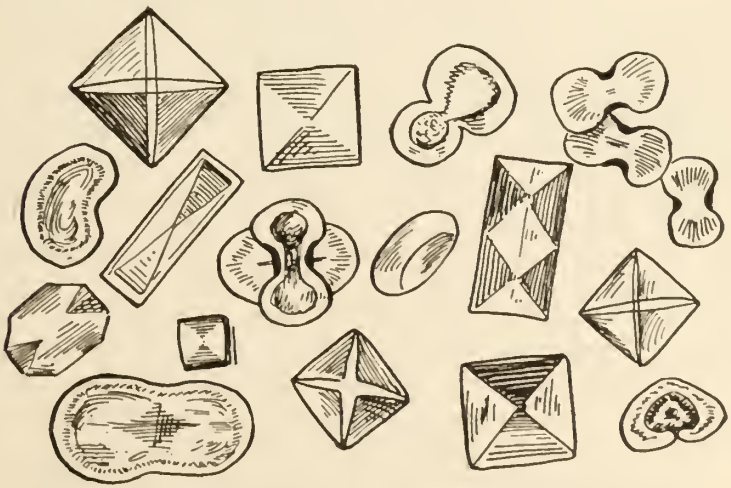


FIG. 2.—(Byron Robinson). Crystals of calcium oxalate. The double pyramid form, octohedron, or envelope-shape; the minor forms on dumb-bell, kidney, and other forms.

strong affinity for each other, and the diad Ca displacing the acid base H_2 forms CaC_2O_4. Purified oxalic acid is dissipated by heat below 350° F. If calcium oxalate be found in the urine within twelve to forty-eight hours after evacation, it shows that there is an excess of oxalic

acid in the system. This may arise from the nature of food or from imperfect oxidation. Oxalates frequently form calculi and more frequently produce structural renal changes. In the majority of the subjects CaC_2O_4 crystals are formed after the urine leaves the body.

The habit of body which favors the formation and deposition of oxalates is termed *oxaluria or oxalic diathesis*, which scarcely, in my opinion, merits the classification of a disease, but rather is the results of defective methods of living.

Idiopathic oxaluria occurs in illdefined morbid states due to excessive secretion of oxalic salts. Idiopathic oxaluria is a condition where excessive oxalic acid is associated with vague pain and dragging in the lumbar region.

Vicarious oxaluria is a distinct alteration between the amount of sugar and calcium oxalate excreted. Oxaluria occurs chiefly in association with lithemia, that is, with uric acid and urate crystals.

Alimentary oxaluria is a condition from injesting food containing excessive quantities of oxalic acid which appears in excessive quantities in the urine. It is in contra distinction to oxaluria from oxidation. Endogenous oxalic acid appears in increased quantities in association with diabetes mellitis, in organic hepatic disease and in defective oxidation. In subjects of jaundice the crystals have a yellowish color. The origin of oxalic acid is both exogenous, extrinsic (food) and endogenous, intrinsic (oxidation). Dr. Leard has shown that if calcium hydrate (Ca_2HO, lime water) be administered in the evening there will be an abundant deposition of calcium oxalate (CaC_2O_4) crystals in the urine in the morning. Oxalate of calcium crystals are deposited in the urine if oxalic acid be administered in one-half grain doses and also the crystals may be found in the urine many days subsequent to suicidal attempts with oxalic acid. Calcium oxalate occurs chiefly in acid urine but may occur in alkaline or neutral urine. Calcium oxalate crystals possess no special pathologic signification as the factors which decide their formation is not known. At present no known disease induces oxaluria.

Calcium oxalate may be found in the urine of both healthy and diseased subjects. In health calcium oxalate depends on the ingredients of the ingested food. Oxalate of calcium crystals are frequently found in diseased conditions—especially in disturbances of the tractus intestinalis. Large quantities of calcium oxalate may occur in the urine after ingesting certain vegetables (as beans, carrots, and asparagus). The quantity of oxalate crystals is no indicator of the amount of oxalic acid in the urine, for the urine may contain considerable oxalic acid with a minimum quantity of precipitated oxalic crystals. Calcium oxalate is frequently associated with pathologic changes in the urine. It appears that calcium oxalate (CaC_2O_4) occurs most abundantly in association with urine rich in other forms of excessive urinal secretions or solids.

Calcium oxalate is held in solution by monophosphate; it is not soluble in the diphosphates. Hence, when uric acid is precipitated from the urine, the acidity of the urine decreases and the monophosphates are

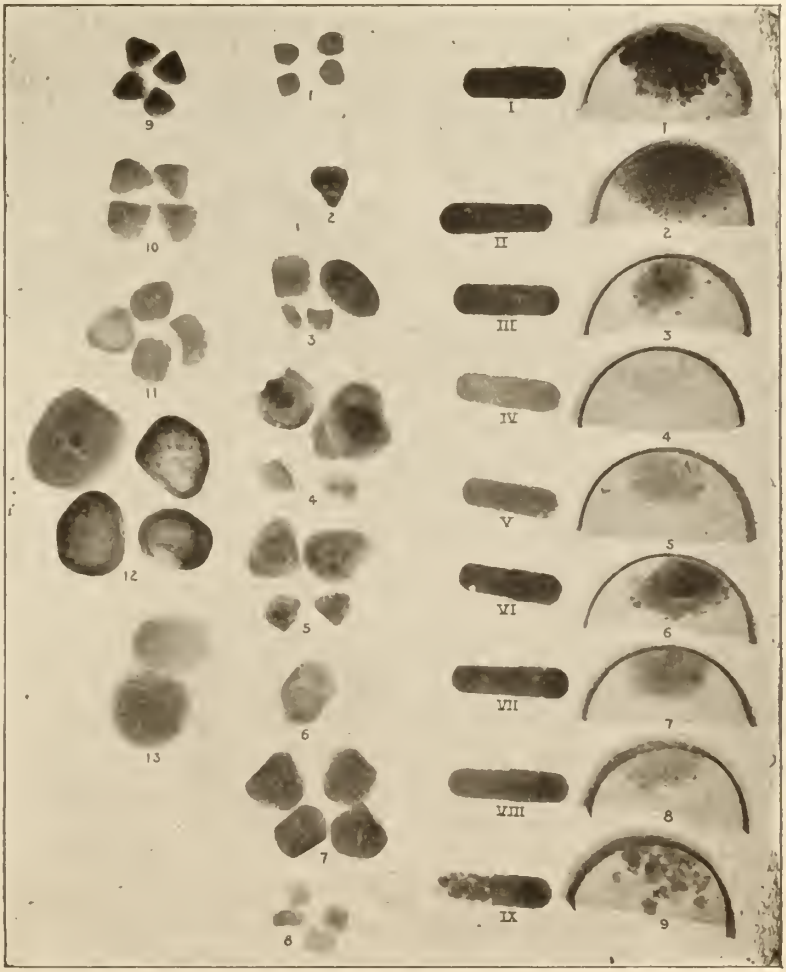


PLATE Ia.

FIG. 3 (Byron Robinson) presents a shadow of nine isolated chemically pure crystallized salts found in urine (1-9), lying on a segment of pasteboard box, and (I to IX) is the same series of salts enclosed in gelatine capsules (1-13) x-ray shadows of hepatic calculi. III and 3, calcium oxalate.

converted into diphosphates $CaCO_4$ will crystallize. Calcium oxalate is therefore found in acid urine. Calcium oxalate crystals form after the urine is voided and is hastened by cold. Primary oxalate crystals irritate the tractus urinarius. The mechanical irritation may be so trau-

matic as to produce hæmorrhage and catarrh, with accompanying pain and painful micturition.

The clinical signification of excess of oxalic acid as oxaluria is indefinite. If oxaluria be not alimentary, it perhaps indicates deviation from the usual oxidation, indicating incomplete metabolism of uric acid ($H_2C_5H_2N_4O_3$). Excess of calcium oxalate (CaC_2O_4) in the urine does not always indicate a clue to the existing pathologic conditions. However, it should instigate the clinician to investigate for complications. Oxalate crystals are liable to appear in diabetes mellitus, catarrhal jaundice, and spermatorrhea. Calcium oxalate crystals are found in 25 per cent. of urines in twelve to twenty-four hours after voiding. If found in fresh urine, some irritation of the urinary passages probably exists. The crystals are frequently suspended in a cloudy mucous sediment. Calcium oxalate crystal are apt to appear in the urine of the patient afflicted by fluid diarrhœa. In this state oliguria favors the increase of calcium oxalate crystals. Calcium oxalate tends to crystalize and form a nucleus when in contact with any object; for example, on fine threads or shreds of mucous.

Oxalate of calcium crystals occur more frequently in the urine in summer months during the greatest evaporation from the body. In subjects of oxaluria where crystals are present in abundance they may occasionally cause calculus. Oxalates occur in nature in the juices of some plants, as wood sorrel (*oxalis acetosella*, which yields the salt of sorrel—KHC_2O_4, acid potassium oxalate), and rhubarb (*rheum*), common dock (*rumex communis*), and certain lichens. The form is chiefly as sodium, potassium, and calcium salts.

The carbon of many substances yields oxalic acid, as well as fat, sugar, and starch. Oxalic acid is extensively distributed in the vegetable kingdom in the form of potassium, sodium, or calcium salts. Oxalic acid acts as a reducing agent, decolorizing solutions of permanganitis, and precipitates gold and platinum from their solutions. Oxalic acid taken in large doses is a poison. Antidotes to oxalic acid are calcium carbonate ($CaCO_3$) and calcium hydrate (Ca_2HO), lime water, which should be administered, producing an insoluble calcium oxalate (CaC_2O_4).

Alkalies should not be administered, as all alkali oxalates are soluble. In regard to calcium oxalate crystals, an important and suggestive factor occurs when a subject eats vegetables containing oxalic acid, an abundant deposition of calcium oxalate crystals may be observed in the urine. These data lend a suggestive key to the treatment of excessive calcium oxalate in the urine.

Oxalic acid is an intermediate product between uric acid and urea; the process resting an oxidation and with minimum oxidation it results in oxaluria, for example, in cardiac and pulmonary diseases (defective oxidation) oxaluria is frequent. Nervous diseases are frequently accompanied by oxaluria; which precedes or follows the other is difficult to

determine. Oxalic acid is manufactured for commercial purposes by heating sawdust with potassium or sodium hydroxide (KHO, NaHO.) with subsequent chemical treatments. The methods of securing calcium oxalate crystals were the following: On the patient entering the hospital a half a pint of urine was obtained, which was allowed to evaporate day by day in a warm room. By keeping a half a dozen bottles of urine

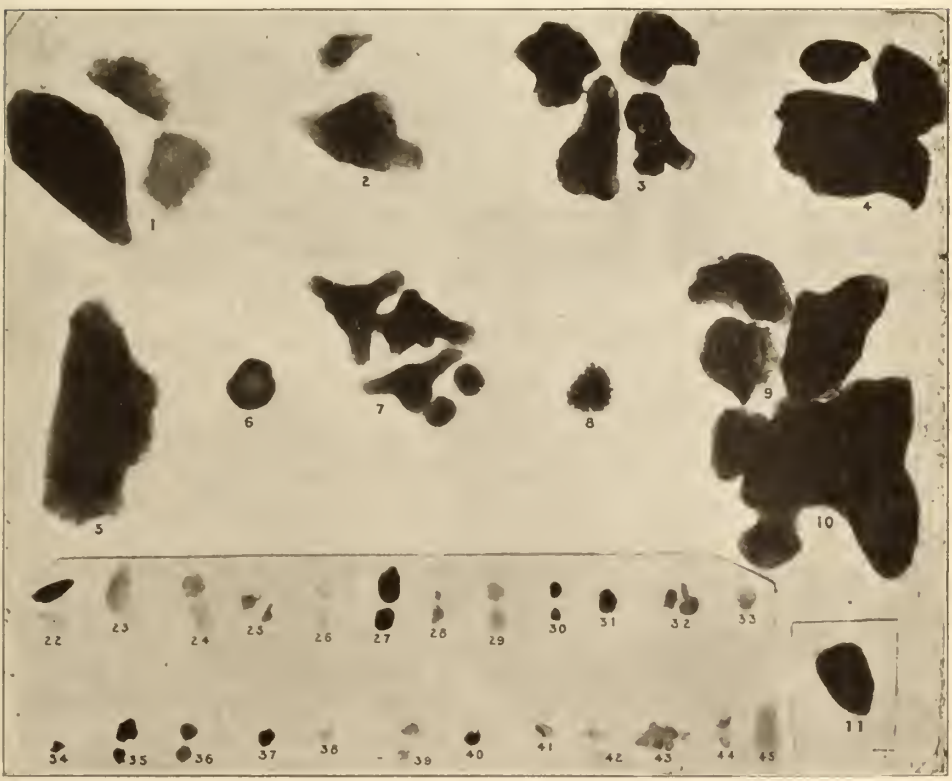


PLATE II a.

FIG. 4 (Byron Robinson) presents x-ray shadows of ureteral calculi (1-11). Number 11, about one-half size, I extirpated per vaginam. Nos. 22–45 are shadows of expelled urinary calculi; 25 and 28 are cystine calculi. Nos. 9 and 10 I extirpated from the uteretal pelvis and calyces by a lumbar incision. Nos. 34, 35, 36, and 40, calcium oxalate.

evaporating one can observe the various conditions of calcium oxalate crystals for comparison by mounting in glycerine. After the patient has been in the hospital a few days under visceral drainage, that is, under the administration of one-half pint of fluid every two hours for six times daily, the oxalate crystals are difficult to find. The diuresis has practically cleared the urine of crystals. The oxalate of calcium crystals may

not be found at the bottom of the vessel, as they are frequently sustained, buoyed by the contained mucous.

TREATMENT OF OXALURIA.

Two indications for treatment exist, viz.: (*a*), by fluids; (*b*), by foods.

(*a*).—FLUIDS.

The treatment by fluid is perhaps the most important. The ingestion of one-half pint of fluid (eight ounces) every two hours for six times daily will maintain the insoluble calcium oxalate in a state of attenuated mechanical suspension unfavorable to the formation of oxalate calculus. An oxalate calculus cannot form while a powerful stream of urine flows through the ureter. When the urine is limited in quantity the calcium oxalate crystals are liable to aggregate and lodge in the mucal fold of the ureter. Also the vigorous ureteral peristalsis with accompanying powerful urinal stream is liable to wash distalward any precipitating or lodging crystals. A rich diuresis allows insufficient time and conditions for the formation of calculus. A limited ureteral stream with limited ureteral peristalsis offers the most facilities for the formation of calculus. Oliguria and calculus are twins. It is known that in congestion, cardiac disease, and urinal stagnation, ureteral colic is frequent from the formation of crystals during the slow passage of urine through the ureter. Ureteral calculus seldom or never forms during polyuria, as in diabetes, mellitus and insipidis. Doubtless many subjects acquire ureteral calculus from insufficient drinking. This is especially true with woman. Many subjects drink almost all their fluid at meal time, amounting to two and one-half to three pints where as if one accounts for the loss of fluid by the tractus cutis, tractus respiratorius and tractus intestinalis it will require at least five pints for normal visceral function. Besides the injested fluid should be consumed at regular intervals in order that oliguria may not exist at any one time of the day with its liability to allow crystals to form in the ureter while at another time polyuria exists with its powerful flood of urinal stream washing distalward all lodged crystals. The prophylactic rule against ureteral calculus is ample fluids (water) at regular intervals. Children and laborers seldom acquire ureteral calculus because they drink ample and frequent.

(*b*).—FOODS.

Calcium oxalate originates mainly from the food eaten. Quantities of oxalic acid are contained in grapes, apples, oranges, tomatoes, beans, carrots, asparagus, wood sorrel, rhubarb, tea and cocoa. Waters as those charged with CO_2, alkaline bicarbonates and sugar are rich in oxalic acid. Less quantities of oxalic acid are found in fruit, beer, and meats are rather poor in oxalic acid. In foods the oxalic acid exists chiefly as insoluble calcium salts and is dissolved by the acids of the stomach and

reabsorbed. The more acid the gastric secretion the more oxalic acid will appear in the urine. The oxalic acid in the urine is proportional to that ingested. To lessen oxalic acid in the urine avoid food rich in oxalic acid. The endogenous source of oxalic acid is creatinin and glycocholic acid. The diet should be so ordered that the oxalic acid will be in a soluble state in the urine from combination of the elements in the food with oxalic acid as $Na_2C_2O_4$.

Calcium oxalate becomes easily soluble in solutions of acid phosphates of sodium (Na_2HPO_4). The patient with oxaluria should avoid vegetables containing quantities of oxalic acid and indulge in a more or less meat diet. Calcium oxalate is easily soluble in solutions of magnesium salts but not so easily soluble in calcium salts. Calcium salts are rather rich in milk, eggs, vegetables, while flesh leguminous food, potatoes, cereals, and apples are richer in magnesia salts. Hence a prophylactic diet against oxaluria is selected by an estimation of the amount of oxalic acid it contains and also remembering the relation that calcium oxalate bears to magnesium salts.

THE
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"NEC TENUI PENNÂ."

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Editorial.

TYPHOID FEVER. This is the season of the year in which we find typhoid fever prevalent, and a few words along the line of its prevention or treatment will certainly not be amiss. Nowadays it is almost considered a preventable disease; that is, by using hygienic measures and sanitary improvements, we can certainly eliminate the causative factors of the disease. Many authors now say that the source of typhoid fever is entirely in the drinking-water. J. D. Briggs, in the *Medical Record* of January 7, 1905, reviews the circumstances attending a serious outbreak of typhoid fever in a small, isolated community in the Alleghany watershed. The water supply of the village came from two sources, one a reservoir at some distance and the other a nearby spring. The reservoir water possessed a pronounced odor and a disagreeable flavor, due to algæ, but it was found that the clear and agreeably-tasting spring water contained the infecting agents of the disease. This was due to bad drainage from an imported case of typhoid fever, the case being located above the spring.

It can be thus plainly seen the great necessity for proper sewage systems that might contaminate the water supplies of a community. As well is there a necessity for the complete disinfection of all excreta, linen, bath-water, etc., from cases of typhoid. From the cheapness and effectiveness of carbolic acid and its capability of being potent, even in some degree of dilution, it can readily be seen that the proper measures can be in the hands of all. Every physician in his community can be

as effectual as a board of health, and there are no restrictions upon whatever action he may take. The bacteriological proof may be lacking in polluted waters, yet there is abundant clinical and epidemiological evidence that the cause of the disease is from the water supply. Water should be prepared for drinking in all suspected localities, and the populace should never wait until a large epidemic of typhoid fever has been grounded before they commence their precautions as to their drinking-water. The Pasteur and Chamberlain filters require cleaning often to say that they can safely turn out a pure water. Boiling absolutely gives a water that is pure, but in the boiling of water its flavor is lost. Water treated chemically, say by alum, is as well not pleasant to the taste. Springs and cisterns that are known absolutely to be out of reach of contamination from the neighborhood can be drunk at will. There is no better water to the taste or purity than that from an uncontaminated cistern which has been filtered through a charcoal filter.

SERUM THERAPY. The present limitations of serum therapy in the treatment of the infectious diseases is a subject of interest to all. Knowing the excessive literature on the subject of serum therapy, it might be well that at any time a resume of the present limitations of such therapy is published to extend it to the readers of this Journal. The following is about as correct a report as we have seen. In some clinicians' hands certain results have allowed him to favor that particular serum which he has been successful with. In others' hands the same serum has been followed by unsatisfactory results. Serum therapy is in its infancy, but points well toward rational therapy: hence it deserves study.

H. W. Berg (*N. Y. Med. Record*, May 6, 1905) reviews the principles underlying the production of antitoxic and antibacterial sera and their therapeutic application. The bacteria concerned in the production of the specific infectious disease fall into three classes. First, those which, like the bacilli of diphtheria and of tetanus, produce a virulent, real toxin which is set free in the culture media. Second, those bacteria which secrete but little or no free toxin, but do contain a powerful endotoxin, which is partly liberated only on the death and disorganization of the bacterial cells; good examples of this class are the pneumococcus, typhoid bacillus, the streptococci, etc. Third, those bacteria that produce no free toxins nor have in the bacterial cells endotoxins of any power, but in which the cell plasma contains other poisons in addition to the protein poisons common to all bacterial cells. The most important member of this group is the tubercle bacillus. Against the first group the antitoxic sera are available, but their success depends largely on the interval of time that has elapsed since the infection began, for the antitoxin can bind only such toxin as has not yet had time to enter

into combination with the body cells. In tetanus the poison becomes fixed in the central nervous system so rapidly that the serum has little chance for effect. The difficulty with the antibacterial sera is that the body's supply of alexin is very small, so that theoretically the injection of the serum should be accompanied by an additional dose of fresh normal animal serum to supply this deficiency—an impracticable procedure. The attempts to treat one disease by means of the antiserum of another, as has been attempted by injecting diphtheria antitoxin in pneumonia and cerebro-spinal meningitis is repugnant to the principles of scientific serum therapy and tends to discredit its principles. The use of Moser's antistreptococcus serum in scarlet fever in the Vienna hospitals has not given results equal to those obtained by the author in the Riverside Hospital, following the classical lines of treatment. The introduction into the body of a child of the large amounts of serum required by Moser's plan is also objectionable, owing to a possible hemolytic action.

EDITORIAL NOTES.

DR. J. M. MORRIS and wife are taking an extensive trip through the Southwest. We received a postal card from them recently, from Albuquerque, N. M., reporting a pleasant sojourn.

THE thirteenth stated meeting of the Jefferson County Medical Society will be held at the Galt House, this city, Tuesday, June 20th. The afternoon session will be held at 3 o'clock and the evening at 8, to be followed by a banquet at 10 P. M.

THE thirty-first annual report of the Medical Director of the Cincinnati Sanitarium shows excellent work done by that institution.

DR. WINNIFRED GREEN has removed her office from the Gaulbert Building to 408 West Chestnut Street. Practice limited to eye, ear, nose, and throat.

WE are in receipt of a descriptive circular issued by the United States Civil Service Commission describing a position open for Hospital Interne (male) Examination to be held for the Panama Canal, July 12 and 13, 1905. This circular and list of places where the examination will be held can be obtained from Washington, D. C.

THERE has been recently organized a National Associated Medical Press in New York City. We feel there is some need for an associated press in medical circles, which will liberate authentic news items and give to the different medical journals in their localities items of interest for their readers.

DR. G. S. HANES announces the removal of his offices from 723 West Jefferson Street to the Hast Building, 713 Fourth Avenue, this city. He will be associated with Dr. J. M. Matthews.

Recent Progress in Medical Science.

OPHTHALMOLOGY, OTOLOGY AND LARNGOLOGY.

UNDER THE CHARGE OF

ADOLPH O. PFINGST, M. D.,

Professor of Diseases of the Eye, Ear, Nose and Throat, Kentucky University, Medical Department.

A Case of Blood Poisoning from Tonsillitis.—A unique case of this kind was reported by Sir Isambord Owen, M. D., in *The Lancet*, October 5, 1905, occurring in a man twenty-two years old. The fauces were red and swollen, both tonsils very much enlarged, and the left partly covered by a patch of membrane. The anterior chain of cervical glands was swollen on both sides. Bacteriological examination showed neither the diphtheria bacillus or streptococcus. The left tonsil was lanced and cleansed with listerine, after which the inflammation subsided and the swelling of the cervical glands diminished. The temperature, however, continued to rise, reaching 104.7°. The patient grew weak, tremulous, deaf, and began to wander in his mind. The abdomen became distended and tympanitic and the tongue dry. These symptoms continued for several days. On the sixth day the arms became sensitive to touch and the left knee became decidedly swollen. The blood taken from the right median basilic vein showed the presence of streptococci. Injection of anti-streptococcic serum from the Lister Institute was begun at once, injections being made subcutaneously in the flank. Four injections were made, each of twenty cubic centimeters, one on the seventh, one on the eighth, and two on the ninth day. This treatment was followed by no improvement, the temperature remaining high, the shoulders becoming more painful, and the swelling of the knee remaining unchanged. From the twelfth to the sixteenth day injections of the Roux serum were made. The temperature sank rapidly, the tongue grew moist and the joints less painful. The temperature dropped to 100°, where it remained for several days. The patient was then placed upon tinc. of chloride of iron, 30 min.; dilute hydrochloric acid, 25 min., and quinine sulphat., gr. viii. The temperature finally returned to normal.

The occurrence of a general streptococcic infection following a suppurative tonsillitis which at the first appeared to be of an ordinary character is, though not unprecedented, sufficiently uncommon to be of interest. The treatment was commenced in this case by the use of a serum which, though a polyvalent serum, was of a less complex constitution as regarded its antitoxic elements than the Roux's serum obtained from Paris. The effect of injecting this serum was apparently *nil*, but an almost immediate drop in the temperature, accompanied by a progressive

diminution of the local symptoms and improvement in the general condition, followed the use of the Roux's preparation. That the sequence of events was not accidental will, I think, appear certain after inspection of the temperature chart. But even the use of the Paris serum did not destroy or neutralize the whole of the materies morbi, which was probably of a multiple nature. The residual morbid manifestations, however, disappeared rapidly when the treatment by full doses of perchloride of iron was commenced, and again there seems good ground for attributing to the action of this drug the destruction of the residual toxic elements which were not destroyed or neutralized by the antiserum.

Infection through the Tonsils.—Dr. Willis S. Anderson, of Detroit, Mich, reviews this subject carefully in *New York Medical Journal*, April 29, 1905. Much attention has been given the tonsils as portals of infection in the past few years. It may occur from various organisms and at any age, principally, however, during childhood. The susceptibility in early life is due to the greater development of the lymphatic system in childhood.

Experiments have shown that the tonsils are capable of taking up pigments and micro-organisms. From the absorption of bacteria remote organs are frequently infected by the tonsilar route. Cases are on record where endocarditis and other cardiac lesions followed acute tonsillitis. A number of cases have been reported of pleurisy following acute amygdalitis, also a number showing the close relation existing between chorea and throat affections. Koplik calls attention to the tonsils as portals of tuberculous infection. Hypertrophy of the tonsil predisposes to such infection. The bacilli most frequently pass through the tonsils, without causing a primary process, to infect the neighboring lymphatic glands. Cases of acute nephritis following acute tonsiilar inflammation have also been observed, also skin eruptions which could be traced to no other cause than the acute tonsillar inflammation. The marked toxæmia, with high temperature, which accompanies acute follicular amygdalitis illustrates the adsorptive power of the tonsils. There are also cases where mild chronic infection is constantly taking place through the diseased crypts, the enlarged cervical glands being examples of such infection. The author believes that the source of infection should be sought for in every case of enlarged glands. It may be found in the tonsils, nose, naso-pharynx, mouth, or teeth. Many cases have occurred where the general health is impaired by the slow absorption of septic material from the throat.

The author takes a conservative stand in the treatment of these various conditions, believing that the removal of the tonsils should not be suggested in every case simply because they are larger than normal. He divides the treatment of hypertrophic tonsils into medical and surgical. Medicinal treatment may be of value to improve the general health,

but neither constitutional remedies nor local applications seem to have any permanent beneficial effect on a chronically-hypertrophied tonsil. The surgical removal of the offending tonsil is believed to be the quickest and surest method of treatment.

Sore Throat as Caused by Systemic Conditions. — Nathan G. Ward, M. D., in the *Medical News*, June 10, 1905, speaks of sore throat as a clinical manifestation of pathological conditions varying from the most trivial indisposition to very severe illness. In a mild form it is more or less present in all mouth breathers. In these it is caused by an abnormal drying of the mucous membrane, and the contact of the mucous membrane with cold air. This is augmented by the mechanical irritation of dust, gases and solid substances suspended in the air. In sore throat involving the tonsillars and the faucial pillars there is usually considerable pain in the throat and at the angle of the jaws and sometimes in the ear. In tonsillar and peritonsillar abscess the pain sometimes becomes excruciating, and owing to the swelling it becomes difficult or impossible to open the mouth. The swelling and inability to open the mouth obscure the landmarks in the tonsillar region in these cases, making an examination and operation very difficult. The relation between these forms of throat inflammation and rheumatic condition is well understood. The indication for treatment is incision of the abscess and administration of anti-rheumatic therapeutic agents.

The author also takes up that form of sore throat dependant upon insufficient elimination. The bowels, kidneys or skin may be sluggish so that the waste products are retained in the tissues and circulation. Secondarily these retained products interfere with normal metabolism and eventually compounds of varying degrees of oxidization are held in the blood. Some of these act as irritants, others as poisons. Waste products circulating in the blood cause a contraction of the peripheral blood vessels, causing thereby an increase in the blood supply of such tissues in which the blood vessels are least supported by surrounding tissues, notably the mucous membranes. The mucous membranes of the upper respiratory tract suffer most frequently owing to the irritation produced by dust and other impurities in the air and to the efforts of nature to eliminate by the respiratory function substances retained on account of insufficient action of the other emunctory organs. In some there is a history of rheumatism, but even in the absence of this there is usually more or less tendency to constipation, billious attacks, gastro-intestinal disturbance, aches and pains at different parts of the body. The faucial mucous membrane in subjects of this kind is always more or less congested and often edematous, and the lymph follicles, especially those on the posterior pharyngeal wall stand out prominently. In chronic cases eustachian catarrh is produced and progressive deafness follows.

The treatment of these cases of auto-toxic sore throat are based upon an active elimination. All remedial measures tending to increase the action of the glands of the gastro-intestinal tract, the kidneys and the skin indicated. Tonics and alteratives to tone up the system may prove necessary. At the same time local applications are valuable. No routine formulæ can be adopted. What is soothing in one is a distinct irritant in another, and in the same individual frequent changes may have to be made. The general indications are, soothing applications at first to allay the irritation, and afterward stimulating medicaments to absorb the exudation in the submucosa.

Ear Complications of Scarlet Fever and their Treatment.—In discussing this subject, H. Jarecky, in the *Medical Record*, February 25, 1905, says that he wishes especially to emphasize: (1) The necessity of paying attention to the removal of hypertophied tonsils, adenoid vegetations, and nasal obstructions in all of our little patients, so that when subjected to the strain of scarlet fever they may avoid the principal method of ear infection. (2) Owing to the rapidity with which destruction of aural tissue and extension of infection take place in this disease, as soon as the tympanum shows signs of exudation and the membrane of bulging, a paracentesis should be immediately performed. (3) Repeated examinations of the ear, especially in infants and children, should be made on account of the uncertainty of the symptoms. The symptoms, diagnosis and treatment of the various aural complications of scarlatina are taken up in order and described in detail.

The Importance of Early Recognition of Suppurative Ear Disease.—A. G. Bryant, in the *Medical Record*, May 13, 1905, contributes a very full discussion of middle ear disease, its etiology, symptomatology and sequelæ, together with the diagnosis and treatment of the various phases of the malady. The disease is so common an accompaniment of the ordinary diseases of childhood that the practitioner should be as familiar with the ear speculum and probe as with the stethoscope, and it should be remembered that it is often the objective examination that gives the first clue as to the existence of middle ear trouble in small children. The following plan of treatment is outlined for early cases. Douche the ear gently every two hours with one or two quarts of a sterile normal salt solution as warm as can be borne, to be followed by a hot water bag or a hot salt bag. Give one grain of calomel in 1-10 grain doses and repeat as necessary. Use cleansing and astringent washes for the throat and cleansing sprays for the nose. Caution against too forcible blowing of the nose, or blowing both sides of the nose at once. Have the patient remain in bed until the acute symptoms have abated. The bromides or phenacetine may be given, but with caution, and only for a few days. Avoid all opiates, as they mask the symptoms. Early paracentesis is urged, especially in influenza cases, and the technique of the operation

and the after treatment are described. Mastoid involvement and the treatment of chronic suppuration are also discussed.

Conservative Treatment of Protracted Cases of Acute Otitis Media Purulenta, with its Complications.—The view is expressed by A. Wiener, in the *Medical Record*, April 8, 1905, that the modern tendency is to be over hasty in performing radical mastoid operations in acute otitis media, and describes six cases in which paracentesis of the membrane and careful treatment served to render more severe measures unnecessary. The author makes a free incision through the posterior superior portion of the canal and the entire posterior portion of the drum, using a sickle-shaped knife for the purpose. All pent-up secretion is immediately blown out with the Politzer, and the parts are then most carefully wiped out with absorbent cotton until the ear is as clean as it is possible to make it. A drain of iodoform gauze wet with a ten per cent. solution of Liquor Burowii is inserted, and an occlusive wet dressing of the same solution is placed over the entire ear. Attention to the general powers of resistance by suitable measures is most important.

Some Points of View in Regard to the Time when to Perform Myringotomy and the Mastoid Operation.—E. Amberg, in the *Medical Record*, April 15, 1905, cites a large number of authorities the concensus of whose opinion seems to be that early incision of the drum membrane and early operation in mastoiditis are the courses of election. The author divides the cases of acute mastoditis into three groups: (1) Those which take a rapid course, clearly showing alarming local and general symptoms, especially of a toxemic character, and which do not respond to palliative measures. (2) Those which take a somewhat protracted course, extending over a period of one or several weeks, exhibiting plain local symptoms, but which are not accompanied by intense pain nor by a grave affection of the whole system, and which, at least temporarily, respond to palliative measures. (3) Those which take a mild course. The first type should be called mastoiditis acutissima; the second, mastoiditis acuta; the third, mastoiditis subacuta. In general, when deciding whether to operate or not to operate in a case of mastoiditis, we had better err to the safe side and open the mastoid. We can never come too early under any consideration, but we may in some cases miss the right time and be too late if we hesitate. An antrotomy in acute mastoiditis can be compared to a myringotomy in acute suppurative otitis media.

The Value of the Present Quantitative Tests for Hearing, with the Demonstration of a New Apparatus.—The various methods used for testing the hearing are discussed in the *Medical Record*, April 1, 1905, by W. S. Bryant, who believes that all of the means employed to determine the function of the ears are open to serious objections.

On account of the imperfections of the voice tests, other means are used, the watch, the acoumeter, the tuning fork, and the König rods, but all of these have difficulties in application, and errors easily creep in. The voice tests are of the most practical significance to the patient, but because they are imperfect and unsatisfactory in some respects the expert is forced to employ mechanical tests, which are also far from perfect. The author has devised a form of phonograph in which the intensity of sound can be standardized and graduated, while at the same time the volume of sound passing to either ear can be controlled. By this means the voice is used as the test sound, but it is reduced to mechanical accuracy of production, and reliable comparative tests at different times and by different examiners are possible, and the detection of malingering made very simple.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE CINICAL SOCIETY, MAY 2, 1905.

DR. J. R. WATHEN: The first specimens I present are those I removed this afternoon. They were removed from a young man twenty-five years of age, who one year previous to this contracted gonorrhea, which ran its usual course without any particular complications, and later on he noticed quite a swelling in both groins; these swellings were treated in the usual way by several physicians, but they failed to disappear or break down. When I operated this afternoon I found no evidences of suppuration, but rather in its place a general glandular involvement, not as we usually find in specimens from gonorrheal infection, but something that resembles in many respects a tubercular condition. I have not yet made a microscopic examination of these specimens and cannot report whether they are tubercular or whether glandular enlargement following primary infection. From the history of the case and the length of time, I do not believe that it is the result of primary gonorrheal infection, but rather a tubercular involvement.

DR. FLEXNER: Any temperature?

DR. J. R. WATHEN: Very slight, or none.

The next specimen that I present is in some respects of unusual interest. It is from a young girl twenty years of age, and she noticed in her cheek a slight thickness, a nodule, and this gradually increased in size and finally ruptured and discharged a small amount of yellow pus,

yet the indurated area was quite characteristic and seemed to be movable, though attached to the muscles.

This specimen I examined, but cannot come to any positive conclusion, but it is evidently a case of actinomycosis. This is the second case that I have reported to this Society. I had a great deal of trouble in freeing the inflammatory involvement from the muscles. As you will note, it has a cauliflower appearance when cut. This is only the central mass. Here is the external opening, and here are two or three internal openings. We know that these cases begin in the mouth and spread outward. As I say, I have made no microscopical examination of this specimen, but I could not not find the fungus, but found other evidences of the disease.

DR. ABELL: Did you find calcareous particles?

DR. J. R. WATHEN: No, but I found that peculiar infiltration of the muscular tissue that resembles almost vegetable matter, which is characteristic of these conditions. The discharge was somewhat of a serum with pus and a little blood mixed with it. I am using large doses of the iodide of potash as a remedy for the growth.

This next specimen is that of a large parotid gland which I removed a few days ago. It had been there for six months and was greatly increasing in size, about three inches in one diameter and possibly an inch or an inch and a half in the other. Some of the smaller pieces have been lost. This specimen has not been examined with the microscope, but it seems to be of the adenomatous type—a suspicious type that Von Bergmann calls attention to in his surgery. They should be removed early and thoroughly, with as much of the surrounding tissue as possible. I did not encounter as much hemmorrhage as most surgeons speak of, having only to ligate one branch of the facial artery.

DR. ABELL: The first specimens of glands following gonorrheal infection are very interesting. In my own experience I have never found glands of this character following gonorrhea, and the probable diagnosis of tuberculosis, particularly from the character of the specimens, is certainly the one that we would expect to make under the circumstances, macroscopic appearance would seem to indicate that.

I was greatly interested in reading a report made before the German Surgical Congress of some two hundred cases of actinomycosis. One of the cases was under the care of the surgeon for fourteen years, and had gone on to complete recovery, with an occasional curettage of the various lesions, and a number of others had recovered under the iodide of potash, under which the Doctor has placed his patient.

I recently had a case referred to me that was considered inoperable; the glands and the entire tissue about the lower jaw seemed to be involved and presented the characteristic calcareous particles illustrated in this condition, and the infiltration was so great that the man was unable to open the mouth. The teeth could not be separated over half an inch.

Under three months' influence of the iodide of potash, this man has recovered a pretty free use of the lower jaw. This infiltration of the tissues was so great that it precluded the possibility of removal either by surgery or the application of cautery. Under the iodide of potash this has largely disappeared, and the report from his family physician is that he has wonderfully improved under the increasing doses of the iodides, and he is able to open his mouth and masticate food.

DR. FLEXNER: I would like to ask the essayist, in connection with actinomycosis, what his experience with the X-ray has been?

DR. IRWIN: These specimens are of extreme interest to me. The first specimen, where the glands of the groin were involved following gonorrhea, with all the microscopic evidences of tubercular infection, is something rather unusual. The other specimen of actinomycosis is rare and interesting. I believe that the diagnosis in both cases is correct.

DR. WEIDNER: The specimen of actinomycosis is one of some interest. We have had quite a number of cases here in town in the last few years. Two or three cases have presented themselves for treatment at the Kentucky University clinic within the last two years. I have seen quite a number of specimens of bovine actinomycosis. I have been interested in it. In this case here the diagnosis has not been made positively. I think that the diagnosis is easily made from the fresh specimen. Take a little pus and add a little glycerine, and you can see the fungi very readily. I would say that the appearance of this would not indicate actinomycosis. As far as I can see, there is not the nodulation nor the breaking down that we would look for in six months. A section, of course, and a culture would show the ray fungus. I dwell upon the point of the examination of the fresh specimen because it is easily made and can be done at the operating table. I have seen quite a large number of specimens invade the mucous membrane of the jaw and periosteum.

I have been much interested in the treatment of this disease by the iodide of potash. I cannot see in advanced cases how they can be benefited by this treatment. There may be a natural arrest of the disease by encasulation and calcification.

The first specimen is quite interesting. It looks much like it is tubercular.

DR. J. R. WATHEN (*closing*): I have very little to add in closing, except to take exception to Dr. Weidner's statement that actinomycosis is easily diagnosed, as surgeons like Ochsner and Murphy in this country, who have had a large experience, claim that it is difficult, and in Von Bergmann's clinic, where many cases are seen, it is claimed to be hard to diagnose. In the first case reported I examined a great many specimens in order to make a diagnosis, but after much effort I at last found the fungus. I examined this case, and was not able to find it. I believe that most authorities and most surgeons and the text books claim that it is

easy to make a diagnosis. Ochsner says that the reason we do not make a diagnosis is that we do not persist enough in looking for the fungus.

Now, in regard to the treatment, whether we can curet it away or enucleate it in a mass, as in this case, is a question. I am quite positive that I left a good deal of disease behind.

As to the treatment with the iodide of potash, the Germans use it in very large quantities. Instead of giving five grains or five drops of a saturated solution, they give forty to a hundred grains or a hundred drops of the saturated solution. Strange to say, they can stand enormous doses, much more so than in syphilis. Why I do not know.

I believe that the treatment should be thorough removal; we should remove as much of the infiltrated tissue and the lymphatic glands as we would in cancer, and follow that up with the iodide of potash.

In answer to Dr. Flexner's question in regard to the X-ray, in the first case, when the X-ray was first used, it yielded beautiful results, the pus discharged quite freely, and there was marked improvement, but following that I had an exacerbation more violent than before, and the second time the X-ray failed to give relief and the man died in spite of the iodide of potash. I believe in cases seen early the X-ray may be of some value.

DR. FLEXNER: How did this man die? Do you remember?

DR. J. R. WATHEN: That is difficult to say, as he left me before he died.

DR. MORRIS: I would like to report very briefly a case of diphtheria that I have recently seen. I report it in order to get an expression from the Society as to whether I was right in my treatment. It was the case of a young lady twenty-one years of age. I saw her two weeks ago tonight. I thought she had diphtheria when I first saw her; the next morning I was sure, and administered 3,000 units of antitoxine. She was no better the next day, and I administered 3,000 units more. When I saw her the next day, I thought she was some better. The second day after I had administered the second dose she was not quite so well. The membrane had extended; there was a high temperature and delirium. I administered 4,000 units of antitoxine, and about that time I noticed a swelling in the left tonsil, showing an abscess, and Dr. Cheatham came and opened the abscess, and a great quantity of pus came out, and we thought, of course that she was going to get better, after having had the amount of antitoxin that we had given her, but the membrane still persisted, and the woman became more delirious, and the temperature went higher, and on the sixth day or night after I saw her she died, apparently from the general infection. Whether from the burrowing of the pus in the abscess or whether from the diphtheria itself, I was at a loss to know. I was disappointed that she died, especially after the opening of the abscess and the escape of the pus. I would just like to hear the Society's

opinion as regards the use of diphtheria antitoxin, whether I administered enough at the right time or too much.

DR. WEIDNER: I think the Doctor undoubtedly had a case of secondary infection in this case; the early formation of the abscess speaks for that, because it is uncommon in uncomplicated cases of simple infection from diphtheria.

As to the main question, certainly his treatment so far as the antitoxin was concerned, was the correct one. We should give as big doses in the beginning as we can, as soon as the diagnosis is made. He did not say anything of any local treatment in this case. I suppose he used the usual local treatment. We should destroy as much of the poison locally as possible. I am a great believer in treating these cases in these two ways. One of the gentlemen of this society could not see why we used Loeffler's solution locally. I still believe in local disinfection. I think that the formation of the poison is local and enters the system through the blood, and I use local measures to destroy the germs and prevent the formation of the toxins and their absorption; therefore, I am in favor of local treatment. Otherwise, the antitoxin is the most powerful agent in our power. I do not see anything that Dr. Morris could have left out.

DR IRWIN: I hardly know what to say about a case of this kind. The antitoxin was administered, it seems, at the time when it should have had full effect. The patient died either from the effect of the septic infection due to the germs which gain entrance with the diphtheria bacilli or from the effect of the diphtheria bacilli because the antitoxin had no effect.

Before the days of antitoxin the disease was treated by local applications, and, strange to say, in the last eighteen years I have used the antitoxin twice only. I have not had a death to record from diphtheria in the last eighteen years. I have been treating it locally, generally speaking, and I have not the implicit confidence in the antitoxin that some of my professional brethren seem to have. I do not wish to shake their faith in the antitoxin. With the late Dr. Larrabee, several years ago, I had seen a case or two where the antitoxin was administered, and I believed at that time it caused the death of the patients, and consequently I had lost some faith in its use. I do not think that local measures should be neglected.

What caused the death of the patient I can not say. The gentleman reporting the case is in doubt. Whether due to some cause other than diphtheria I am in doubt. Whether it was malignant diphtheria like we used to see twenty-five years ago I can not say. I have seen cases die inside of twenty-four or thirty-six hours, and some of them sooner. I have not seen any of these malignant cases in the last twenty years. The most that I can say for the antitoxin is that it affects the membrane and causes it to shed readily. I am not entirely convinced that it alone is the sole cure for diphtheria. We should use local and constitutional measures and keep our eyes open in these cases like we would in any others.

DR. FLEXNER: I am of the opinion that this was not a case of diphtheria. We have a variety of micro-organisms in the mouth and fauces that give rise to membrane, the most common of which is the streptococcus, and occasionally we see a membrane due to the diplococcus lanceolatus; in either condition the antitoxin is absolutely valueless. The only criticism here is possibly the doctor's failure to make a culture. If a culture had been made and the diphtheria bacillus not found and the streptococcus found to be present, then the anti-strepticoccic serum could have been used, because we know that a virulent strepticoccic infection is nearly as bad as diphtheria.

What my friend Doctor Weidner says about the abscess is true, because in true diphtheria as we see it local abscesses are not common.

It is too late in the day to talk about antitoxin in diphtheria. You might just as well talk about ferric hydrate as an antidote for arsenic. Rotch and many men have had an enormous experience with diphtheria in Boston, and the mortality has been lessened more than one-half since antitoxin has been in use. The diphtheria bacilli are toxin producers, the toxins being produced at the site of the membrane; these toxins are absorbed by the lymphatic, and enter the system. If the antitoxin is given in sufficient doses at the start there is no necessity for strong local applications. I think this was probably a case of streptococcic infection.

DR. DABNEY: Like Dr. Flexner, I believe that it is now too late to question the value of antitoxin in the treatment of diphtheria. I also agree with him as to the probability of an error in diagnosis. This is no reflection on the attending physicians, for occasionally the clinical diagnosis must be misleading. I have met a similar case this winter, and the microscope saved me. The woman had a deposit of membrane in her throat, and the Health Department made a culture, and it was found that it was not diphtheria. I want to say here that the Health Department has been very successful in its examinations for me. The case cleared up in a few days, and convinced us that it was not diphtheria. I think a culture examination is of great value.

Dr. Weidner and Dr. Flexner made the point that peritonsillar abscess complicating diphtheria is of great rarity. I have never seen one. This patient had quinsy from the description, and I have never seen that complicating diphtheria. It is possible that the two diseases might be present, though not likely. This might have been a case of quinsy complicating diphtheria where the pus burrowed in an unusual place, and I think probably that the pus had burrowed and could not be reached at all. I would regard the diagnosis doubtful.

DR. LEAVELL: Just recently I saw the report of a case in which 498,000 units of the antitoxin had been given. From 16 to 24,000 units were administered daily. Perhaps in many of these cases of malignant diphtheria we might inject the antitoxin intra-venously.

DR. GRIFFITHS: I am afraid to give my opinion of antitoxin. I have no confidence in it whatever. Anything I might say would only elicit more argument than we have time to give to it to-night.

DR. BAILEY: I want to be recorded on this question as believing that there is only one remedy for diphtheria, and that is antitoxin. I think it is well, as early as possible, to make a positive diagnosis by determining whether the diphtheria bacillus is present or not. I believe also that the treatment, to be effectual, should be used early, before the toxin has been absorbed and has affected the parts of the body, and the work is done which cannot be corrected by the antitoxin. The antitoxin is only an antidote for the poison, and this makes it absolutely necessary that it should be administered early. I believe that the history of this case shows that there was more than diphtheria—that there was a mixed infection—and that the antitoxin is not an antidote to any other germs, such as the streptococcus. I believe that this was a mixed infection, and that the antidote given for diphtheria had no influence in controlling the toxins due to the mixed infection. I believe the latter part of the treatment should have been the anti-strepticoccic serum rather than the diphtheria antitoxin.

The patient died no doubt from the toxins of the mixed infection affecting the nervous system and dying as they do of exhaustion.

I believe that in these doubtful cases we should make an examination to ascertain whether it is diphtheria or not. I would hardly give the amount of antitoxin that Dr. Leavell mentioned. I would give 3,000 or 4,000 units a day for several days.

I do not believe that the local applications reach the diphtheria germs in the throat. They are in the membranes, and can not be reached by these applications. I do not believe it is the proper treatment. I would take the milder solutions, possibly boric acid and salt solutions. I do not give much local treatment. If I reach the case early I give the amount of antitoxin I want. I never in late years feel the anxiety in diphtheria that I felt in former years. If I see the case in the first twenty-four or forty-eight hours I give a good dose of antitoxin and go home and sleep comfortably, which was not my experience several years ago.

The mortality of diphtheria has been reduced from 30 to 6 per cent., and I believe it is due to the use of antitoxin.

DR. MORRIS (closing): I thank the gentlemen for discussing this case. It was only for that reason that I reported it. In answer to Dr. Weidner I would say that I used local and general treatment from the beginning. Stimulants were kept up in a general way from the beginning to the end, and were not left off on account of the antitoxin.

As to the possibility of it not being diphtheria I feel perfectly satisfied, though a culture was not made, that it was diphtheria, because I watched the case from the beginning to the end, and it ran the course of diphtheria.

As Dr. Cheatham said, it was the first case he had ever seen, or remembered having seen, in which quinsy developed on the heels of diphtheria. As he expressed himself, he said there was no question in his mind but what the two troubles existed, and I believe that both of them did.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, MAY 16, 1905.

DR. W. H. WATHEN: I wish to exhibit the following specimen. This specimen is a Fallopian tube, with a laminated blood clot the size of a hen's egg in the upper third, the result of a ruptured extra-uterine pregnancy, removed several days ago. The primary rupture must have occurred several weeks ago, but a secondary rupture followed three days before the operation, and I found in the pelvic and lower abdominal cavities a quart of clotted blood confined by agglutinated intestines and omentum. The woman had her menstruation seven weeks before the secondary rupture, and there was no evident history of a first rupture, and it is assumed that only a small vessel was torn, and the blood remained in the tube because the outer coat of the tube did not then give way.

The symptoms of the last rupture were well marked, but there was no intense pelvic pain or great shock. The pulse never went above 100. In an examination I found a hard mass on the left side and a boggy mass behind the uterus, extending above the pelvic brim. The hard mass was the laminated clot in the tube. The abdomen was opened, adhesions separated, the blood clot sponged away, and the left tube with the inclosed clot removed. The right tube was also removed, because, as you will see from the second specimen, it was obstructed, and its normal condition was so destroyed that it could serve no good purpose, and if left would probably cause serious trouble later. All ligations were made with catgut. I now use catgut in all my pelvic ligatures and sutures. As the pelvic structures were greatly thickened and there were extensive raw surfaces from separated adhesions, I drained with a gum tube.

This is a carcinomatous breast removed one week ago from a woman weighing 225 pounds, 36 years of age, and in appearance in perfect health; she had an excellent color, and had never suffered in any way, and until recently had not noticed any trouble in her breast. The operation was performed within two weeks after the first diagnosis was made. The carcinomatous part is larger than a very large orange, and the tissues thoroughly infiltrated with the malignant disease.

The reason I present this specimen is that it shows a cancerous development of the breast that had evidently existed for probably more than two years, growing very large without apparently injuring the

woman's health, and because it is such an enormous breast, making the operation a rather difficult one.

You will note that I have removed all of the pectoral muscles, having divided the pectoralis major and minor muscles near the points of origin, and dissected them entirely from the chest wall. The incision in this case was not the Kocher, Warren or Halstead incision, but a modification of these, the incision beginning over the clavicle in front of the axillary space, going nearly straight down and then making a curve around the breast—a little different from the Kocher incision. The vertical incision was first made and the axillary space cleaned out thoroughly after the division of the attachments of the pectoralis major and minor muscles. When you separate these muscles from their outer attachments you can expose every part of the axillary space, so that when you complete your work you have in plain view all the vessels and all the nerves dissected out, and you can ligate all of the vessels that connect with the axillary vein or the axillary artery. In this case the entire axillary vein was exposed and lifted up by the finger, and the axillary glands and the fat dissected out mainly by gauze sponging; the glands under the clavicle were also removed. The supra-clavicular glands were not dissected out because there was no apparent malignant involvement of them.

The integument was sutured together very easily, because I dissected the fat from the skin for three inches above and below the skin incisions, so that I had very large and elastic flaps.

Now, about beginning externally in this operation and cleaning out the axillary space and tying off the vessels, the only vessels that bleed much are the intercostal vessels, and I only used four or five little catgut ligatures.

DR. MARSHALL: These cases are always interesting. Dr. Wathen never reports anything to us that he does not say something that gives us food for thought, and in listening to the last case I was considering very much the proposition over again as to what should be done in these cancerous cases. I have repeatedly expressed myself as opposed to anything being done after the deeper tissues become involved in these cancerous conditions. I believe that when the eye can detect involvement of the deeper tissues as far as the knife dares to go that the trouble has gone beyond it, and it just came to me as I was listening to the doctor just now that possibly some time in the near future some American surgeon will come along and suggest a proposition somewhat of this order: In malignant disease of the breast where the indications are that the axillary glands and deeper tissues are involved that amputation will be performed, or removal of the whole arm, going back and taking out the clavicle and ligating the subclavian in the first part and removing everything beyond that point when there is any indication that the deeper tissues are involved. I do not believe that when the eye detects involve-

ment under these muscles and in the axillary space that much good is done by going after it.

DR. LEAVELL: I certainly enjoyed the report of the case, and commend Dr. Wathen for doing a thorough operation. One point that Dr. Marshall brought out is rather radical; that is the removal of the arm for malignant disease of the breast. It seems to me that these malignant growths have a tendency to follow the lymph channels, and I hardly think it necessary to remove the lymph channels below the axillary space to prevent the disease going further up the neck. I do not believe that such a radical operation as amputation of the arm will ever be called for.

One point is whether the X-ray has any virtue after these operative proceedures. There is always a question whether all of the lesion has been removed and whether there will not be left some portion of the growth which ought to be subjected to the influence of the X-ray. As far as my limited experience goes, I am free to confess that the X-ray has not yielded as good results as were expected a few years ago.

I was interested in a paper by Pusey, in the journal of the *American Medical Association*, entitled: "X-ray — Three Years After," and he records very interesting matter along that line, and he reports a good many failures, but on the whole it is a conservative paper; but the question is whether it is advisable in all of these cases or not.

DR. WEIDNER: Did you note a single cure in that paper?

DR. LEAVELL: Yes, sir. A few cases of epithelioma, among others.

DR. GRIFFITHS: I think Dr. Wathen probably used too many sutures. I think that Z. O. adhesive plaster would have brought the edges of the wound together with better results. I believe that if the breast is removed they die, and if it is not removed they die. I do not think anything under heaven will cure cancer. I had a lady with cancer of the breast who went to Cincinnati, probably six months ago or more, and the breast was removed by a paste used up there; she has since been getting along nicely, apparently. I knew a lady on Broadway in the same condition, and that received the same treatment there. I noticed that she died the other day from the trouble. I believe that it is the concensus of opinion now that the knife promises long relief. The work must be very thorough, however.

DR. COOMES: I just wish to say this much, that whether you prolong life or not from removal of the breast, I think it is a charitable act to remove the breast of any woman who has a cancerous breast. If it is not removed it will slough away, and death will be more horrible. I believe there is little chance of cure, but I think it is an act of charity to get rid of them by surgical measures.

DR. WEIDNER: I have nothing to say except in the first case to ask the question if there could be an error in diagnosis? Whether or not

there was some other cause that excited this hemorrhage, such as a chronic inflammatory lesion, as a hemato-salpinx or some other cause?

DR. W. H. WATHEN (*closing*): In answer to the question of Dr. Weidner as to the possibility that this case reported as ectopic gestation might be hemorrhage from some other cause I answer no, it is not possible. I am positive that this was an ectopic pregnancy, and that the hemorrhage came from nothing else. There was a solid clot of blood that had formed in the larger end of the tube when the first rupture occurred, which is never possible except during ectopic pregnancy. And then there was the secondary hemorrhage just such as we have in cases of this sort, which would not occur in anything else, and the history of abortion three or four years previously, no pregnancy afterward, periods regular, missed her period six weeks ago, the trouble beginning with pains in the left side, etc. There is only one further method of perfecting this diagnosis, and that is by taking the lining membrane here and subjecting it to a microscopical examination, and we would find chorionic villi. The question is quite a proper one, because we may probably have hemorrhage in the broad ligament where the woman is not pregnant, but I must say that I have never yet found this except following an operation where some traumatism was produced. I have had a broad experience in ectopic gestation, having had at least one hundred cases, and I am sure that were it at all frequent that we have these hematoceles occurring in women without traumatism from operation or some injury, I would have seen one or more of such cases.

Dr. Griffiths called attention to the number of sutures I used. I only used four or five small ligatures upon the vessels, and the edges of the wound were brought together by a running suture of catgut and then the application of the adhesive strips. It is impossible to bring the edges of a long and circularly-shaped wound together by any means except the suture, but if we are not careful there will be an accumulation of bloody serum under the flap that will result in suppuration and prevent healing. Therefore, the better dressing in these cases is to suture the wound well, and put just a little gauze over the entire line of the wound, and immemediately put on the adhesive strips, binding down the skin flap to the underlying raw surfaces and the patient will get well, and there will be no accumulation of serum. One of the best adhesive plasters is the Z. O. perforated plaster, which permits better evaporation.

BOOK REVIEWS.

Infectious Diseases.—Edited by J. C. Wilson, A. M., M. D., and Julius Solinger, M. D. New York: D. Appleton & Co.

Under the above caption appears the first volume of the series, Modern Clinical Medicine. It is an authorized translation from Dir Deutsche Klinik, with such changes and additions as are necessary to make a complete treatise upon this great group of maladies. In recent years startling and significant results have been achieved by the study of bacteria and the various sera, and their effect in health and disease. Light has been let into many dark corners, and bids fair to illumine many others by the discoveries which the future promises. Quoting from the editor's preface, we may well say that this volume, "the sense of the collective labors of the master minds of medicine in Germany, stands as a summary of existing knowledge, as a permanent record of the medical science of our times. Space does not permit us to give the list of contributors, but it is only fair to say that it includes the names of the greatest medical scientists of modern times, each a specialist in a distinct realm of medical science. The lecture style has been abandoned by the translator, and the subject material has been rearranged. Such articles have been supplied by the editors as are necessary to make the work a complete treatise.

The volume is attractively bound, is printed on good paper, and the illustrations, charts, etc., are excellent. The publishers are to be congratulated for placing this work in the hands of the English speaking part of the profession, and if the same high standard is maintained in subsequent volumes "Modern Clinical Medicine" will be sure of a hearty reception by the profession. B. F. ZIMMERMAN.

A Text-Book of the Practice of Medicine.—For Students and Practitioners. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Physician to the Jefferson Medical College Hospital; Laureate of the Royal Academy of Medicine in Belgium and of the Medical Society of London. Author of A Text-Book of Practical Therapeutics; A Text-Book of Practical Diagnosis, etc. In one very handsome octavo volume of 1120 pages, with 129 engravings and 10 full-page plates in colors and monochrome. Cloth, $5.00 net; leather, $6.00 net; half morocco, $6.50 net. Philadelphia and New York: Lea Brothers & Co., 1905.

We have Hare's Practice before us, and find it has no limit to its value and usefulness to the student and general practitioner. As the student of to-day is the physician of the future, and as the physician must always be a student, a single volume can be conceived as answering the requirements both of a text-book and work of reference. This volume embodies the experience of more than twenty years of active hospital and private practice, during which time the author has been constantly teaching clinical medicine and therapeutics. Dr. Hare

possesses, to an unrivalled degree, the ability to grasp the essence of a subject and to present it clearly. He also understands how to select just those points concerning which the practitioner is likely to seek for information. These characteristics are notable in his previous works, especially in the Practical Diagnosis and Practical Therapeutics. The author's long training has enabled him to appreciate and overcome the students' difficulties and to fit their ideas, and his equal experience in practice has qualified him with ripened judgment to solve the everyday perplexities of the physician. Throughout the work the author has dealt with medicine as a practical science, and has given prominence to those aspects which bear directly on human needs. The sections on diagnosis and treatment have accordingly been developed with special fullness and detail, the therapeutical recommendations being given in such a way that they may be readily applied. Illustrations and plates have been introduced wherever an important point could be made clearer than by verbal description alone.

In recommending this book to the practitioner we feel it is a duty we owe him in not keeping a good thing a secret.

The International Medical Annual—A Resume of the Year's Medical Literature. By Thirty-six Department Editors, with added Articles by Noted Specialists. Substantially bound in Cloth and fully Illustrated by plates in Color and Black and White. 8vo., about 600 pages. Post or express prepaid, $3.00 net. New York City: E. B. Treat & Co., 1905.

This is one of the Year Books published in this country. The major part of the book contains abstracts of all the medical articles published during 1904. There are added original articles on the specially interesting topics during the year 1904. It is arranged alphabetically as per subjects, and so is very easy of reference. The illustrations are good, type clear, and a wieldy volume. It is surprising the amount of material that lies between its covers.

Politics in New Zealand.—The Chief Political Portions, Selected and Arranged by C. F. Taylor, from the Story of New Zealand (by F. Parsons, edited and published by C. F. Taylor). Politics in New Zealand is bound in paper, being intended for popular circulation at a popular price; it contains 108 pages, together with 16 pages of illustrations. Philadelphia: Published by C. F. Taylor, 1520 Chestnut street. Price, 25 cents.

It is not extravagant to say that this is one of the most interesting and valuable books that was ever offered to the public at so low a price—or at any price. It consists of a reproduction of the chapters of the larger book, The Story of New Zealand, that pertain to the political and economical progress and conditions of New Zealand. To the student of the science of government and economical questions these chapters are the most valuable part of that book. There are forty-three chapters bound in light and convenient form. They treat of such subjects as the Torrens land title system, govornment telegraphs, telephones and railroads, postal, savings banks, government insurance, village settlements, government forests, voting by mail, direct nominations, progressive

income and inheritance taxation, State resumption of large landed estates, government loans to citizens, factory laws, industrial arbitration, initiative and referendum, old age pensions, government coal mines, restriction of emigration, parcels post, etc.

Progressive Medicine, Vol. II, June, 1904.—A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Armory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 334 pages, 47 illustrations. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Philadelphia and New York: Lea Brothers & Co., Publishers.

Surgery of the abdomen includes a careful description of the newer methods of dealing with ventral hernia. The surgery of the stomach receives the attention that its growing importance merits. The biliary passages receive surgical consideration, as do also the pancreas and appendix. The gynecological consists of the usual careful study made in this important field. The review of diseases of the blood is an excellent resume of the work done in this rapidly growing field of internal medicine. The volume closes with the devotion of several pages to the subject of ophthalmology. The usual standard of excellence has been maintained in this volume, and the subject matter is of unusual importance.

B. F. Z.

A Text-Book of Physiological Chemistry.—By Olof Hammarsten, Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation from the Author's Enlarged and Revised Fifth German Edition, by John A. Mandel, Sc. D., Professor of Chemistry and Physics, and of Physiological Chemistry in the New York University and Bellevue Hospital Medical College. Fourth Edition, First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1904. Price, $4.00.

The more the practitioner knows concerning physiology and chemistry the better off is he. That the excrements from the body by their chemical nature are the best indices of the interior processes is now both accepted and appreciated. We are learning more about physiology every day, and the above text-book is an excellent treatise on physiological processes, which are largely chemical. We find this book serially taking up the proximate principles of the body with their chemical nature, and then the urine, sweat, milk, etc. The reading is very interesting and the text highly instructive. We have seen only one other book of this nature; there would seem a demand for more like it. We certainly recommend it to all. Its ample and extensive index makes all subjects easy of reference. It contains 703 pages and is sold at a moderate price. Its chapter on metabolism is worth reading.

The Student's Hand Book of Surgical Opsrations.—By Sir Frederick Trevis (Bart.). New Edition, 12mo. Illustrated. Limp Cloth, $2.00 net. Chicago: W. T. Keener & Co., 1904.

We find this a valuable book for not only the student in the surgical laboratory as a guide, but for any one doing surgery. It is of convenient size, nicely bound, and is printed on durable paper in clear type. The illustrations depict the different steps of an operation, admirably show-

ing the operating fields at different intervals of the proceedure. It is a thorough guide for all the common operations, and should be in the hands of all students, especially those taking the surgical laboratory, and also those graduates doing constant surgery soon after their graduation. S. B. H.

Transactions of the College of Physicians of Philadelphia—Third series. Volume xxvi. Published for the College. 1904.

This book of 315 pages contains a great many valuable papers which were read before the College from January 1st, 1904, to December 31st, 1904. There are addresses, memoirs, and especial articles of medical nature, among which is Dr. H. C. Wood's address which is beautifully written and most interesting. The publication of these papers is an admirable work, and we are pleased to have our copy. S. B. H.

BOOKS RECEIVED.

A Case of Extensive Carcinoma of Tongue and Neck, Presenting Points of Special Interest.—By William Seaman Bainbridge, M. S., M. D., of New York. Reprinted from *American Medicine*, Vol. IX, No. 12, pages 477-478. March 25, 1906.

Two Cases Presented to the Clinical Society of the New York Post-Graduate Medical School and Hospital, December 16, 1904.—By William Seaman Bainbridge, M. S., M. D., New York. Reprinted from the *Post-Graduate* for February, 1905.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition.—By Prof. Dr. Carl Von Noorden, Physician-in-Chief to the City Hospital, Frankfort, A. M.

Authorized American Edition translated under the direction of Boardman Reed, M. D., Professor of Diseases of the Gastro-Intestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College; Physician to the Samaritan Hospital, Philadelphia, etc.

Part VI.—Drink Restriction (Thirst-Cures), Particularly in Obesity. By Prof. Carl Von Noorden and Dr. Hugo Saloman, New York. E. B. Treat & Co., 1905.

Contributors to the Medical Brief Whose Portraits Appeared in 1904 in the Medical Brief of St. Louis, Mo.

Kentucky Agricultural Experiment Station of the State College of Kentucky.—Bulletin No. 119. Labels on adulterated and imitation foods sold in Kentucky. By R. M. Allen. Lexington, Ky., April 15, 1905.

Abstracted from Report of the Commission for the Study and Treatment of "Anemia" in Porto Rico. Authorized by Act of the Legislative Assembly, approved February 16, 1904. Respectfully submitted to Hon. Beekman Winthrop, Governor of Porto Rico. Abstract published by M. J. Breitenbach Co., New York City. December 1, 1904.

Battle & Co.—Have just issued the sixth of their series of twelve illustrations of Intestinal Parasites, which they will send free, to the physicians, on application to the above firm, St. Louis, Mo.

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

HYSTERIA—With Report of Case.*

BY O. R. REESOR, M. D.

HYSTERIA is supposed to be a functional psychoneurosis due to a morbid condition of the cerebral, spinal and sympathetic nerve apparatus, but apparently involving, primarily, the cerebral cortex, and is characterized by mental motor, sensory, vasomotor and visceral disorders.

Etiology.—Hysteria is a very common condition, of the female sex more especially. You find it more especially between the ages of puberty and menopause. While you occasionally see it in the young but not frequently, and again after the age of fifty years.

Heredity plays an important part; you very often see it in the daughter whose mother was hysterical, or in those who give a family history of being nervous, excitable, etc.

Inciting Causes.—Any emotional disturbance may bring on an attack of hysteria, such as over work, grief, chagrin, fright, etc., which generally disappears after the removal of the cause. Again it may follow traumatism, and under this head you see it more frequently in the male sex, for the simple reason that males are subject to more accidents than the females. The likelihood of hysteria following trauma depends upon the intensity of the mental shock. You occasionally find this following intoxication, from lead, mercury, sulphid carbon, tobacco, morphine, cocaine and chronic alcoholism, or from a single alcoholic debauch.

Acute infectious diseases, such as typhoid, malaria, diphtheria, grippe, pneumonia, scarlatina, etc., may induce hysteria.

Where you find a number of persons closely associated, such as

* Read before the Louisville Medical and Surgical Society, May 15, 1905

schools, prisons, barricks, etc., they may become hysterical, more especially if there are some one in the association who are so affected. You find those who become so affected greatly simulating the case with whom they have been associated.

Symptoms.—The symptoms may be divided into two classes, the Stigmata, those which are persistent, and the Accident, those which are transitory or intermittent.

The Stigmata are necessarily single or in combination, but when once developed tends to persist so long as the affection lasts.

The Stigmata may be divided into sensory, motor and psychic.

Sensory may be divided into negative varieties, such as anesthesis, positive, the hyperesthesias. You may find them both in a given case but the anesthesis are the most important symptomatically.

Hysterical anesthesia may affect sensation in all its modes and tenses, including the special senses.

Special Senses.—Taste and smell may be perverted, diminished or abolished. The loss of taste is usually limited to a portion of the tongue and mouth. Hearing is often greatly diminished, but complete hysterical deafness is very uncommon. Vision is very frequently modified, but complete blindness is very rare; when it does occur, it is of sudden onset, of few days duration and sudden recovery. Vision in one eye is often reduced to counting fingers or less. You will most often find first a reduction of the field; second, troubles of color perception; third, errors of accommodation. These conditions of the sense of sight, I leave to the eye specialist for discussion.

Cutaneous anesthesia may be absolute. Pricking, pinching, hot and cold bodies, produce no response. You may find one side of the body or limb anesthetic. Again, you may be able to locate certain spots on the body anesthetic. The mucous membrane may show the same anesthetic modifications of sensibility. The deeper parts are frequently anesthetic. You may take the bones, muscles, ligaments, or the cord, and give a severe wrench, twist or pierce them without any sensation whatever.

Motor Stigmata.—You find the movements in hysteria retarded; you therefore find the retardation closely allied to the anesthesias. It may be increased by diverting the patient's attention, or diminished by concentrating his attention upon the given act. These patients are often capable of performing several acts simultaneously, as they are unequal to the division of attention thereby necessitated. In many, there is a tendency to rigidity or contractures and may be demonstrated in weakened or anesthetic limbs and often indicated by exalted reflexes.

Mental stigmata or hysteria consists in a belittlement of memory and will power. The amnesia is sometimes due to lack of mental concentration, and the loss of will power is frequently manifested in the impulsive acts and general want of self-control.

Accidents of Hysteria.—The accidents of hysteria are considered to be more or less transitory features of hysteria, which chief among these, are the hysterical attacks. These often take the form of severe, intense and prolonged convulsions. The complete grand attack as studied and described by Charcot are infrequent, but in some irregular or fractional form, they occur in a majority of all cases. When one has this attack, they may assume most any posture, having most generally always a prodromal stage, characterized by some to be depressed, moody, etc. Others exhilarated, restless, quarrelsome, and talkative. The Aura follows, and this ordinarily consists of a painful feeling arising in the lower part of the abdomen and develops into a lump in the throat, giving a feeling of strangulation and suffocation: "the globus hystericus" face flushed, throbbing in the temples, objects turn black before the eyes, vertigo occurs and the patient sinks down or may fall suddenly unconscious, which is the beginning of the convulsion.

Motor Accidents.—Paralysis and contractures may both be combined in a given patient and given limb. They may follow convulsive attacks, mental impression or shocks, traumatism or morbid states.

Paralysis are commonly marked by sudden emotional onset, or may gradually develop after some such moral strain. They very rarely ever abolish every movement of the limb.

Contractures present loss of power with persistent voluntary rigidity without modification of the electrical or tendon responses. The affected limb is more or less rigid, muscles tense and firm. The contractures persist during sleep but yield completely under a general anesthesia.

Prognosis is not so good, for under the actions of inciting causes you very often find its recurrence. Many consider themselves well, but upon careful examination you will be able to find traces of it. It is exceptional to see a well developed case of hysteria gain absolute health. Children make better recovery than elder persons.

Diagnosis.—You have less difficulty if you can distinguish it from neurasthenia, emotional disturbances, etc. No disease when well developed is so distinctly marked and stigmatized.

Treatment.—Recognizing in hysteria a mental disturbance principally your treatment must be mainly psychic. Methods are usually successful in proportion as they are novel to the patient, strike the fancy and stimulate the imagination. You may divide the treatment into general which is applicable to all the manifestations of the disease. Special regarding the manifestations of individual cases.

General.—First, try to do away with the fixed idea that dominates the patient; after this you have easy sailing. To find out just how this idea arose, is sometimes difficult; may have arisen in a dream and in many it is a subconcious idea. Best to remove person from place where disease first originated. If possible a trip across the country, sea voyage, etc. Limit their associates and avoid everything which causes

them to think of their present condition. The rest cure used very extensively in neurasthenia often proves beneficial. Hypnotism can be practiced with some with good results.

When anemia, etc., occurs, you treat that the same as in a non-hysterical case. Hydrotherapy, electricity, etc., is all indicated and helps along.

Special Treatment.—The convulsive attacks can often be diverted by a dash of cold water, speaking quickly, or an inhalation of ether.

Paralysis and contractures should be taken hold of early to obtain best results. Massage, electrically, and a positive assurance that they are going to improve.

Anesthesias and hyperesthesias should be treated very much the same. The Faradic current, I like best in the anesthesias.

You find in treating a genuine case of hysteria, that in one sense it is a case of itself and have no set rule to follow, but let it be a law unto itself and use good common sense.

I. S.—Age 17; female; family history good, with the exception of parents on father's side being of very nervous temperment.

Personal history.—Had been a very healthy child up to the age of seven. No convulsions or other nervous manifestations other than being of a nervous temperament. The trouble dates back to the age of seven, when she first complained of pain in the bowels, being diagnosed as neuralgia of the bowels. These pains came on in the spring lasting for six weeks. They appeared at a certain time each morning, lasting for a definite period and then disappearing, being perfectly at ease until next morning. At the end of six weeks all pain entirely disappeared. The following spring the same character of pain appeared but this time being located in the side, this coming on at a certain time and lasting for the same length of time each day. This lasted four weeks, disappearing to make its appearance the following spring in the other side, manifesting itself the same as before of four weeks duration. The following spring the pain appeared again, but this time appearing in the head, being centered mostly in the vertex. This was of longer duration lasting mostly all summer, but coming on again in the following spring. These headaches continued making their appearance each spring growing more severe and lasting for a longer period. Four years ago this spring they became complicated by some gastric disturbances. Pain in the region of the stomach on the ingestion of food, also becoming nauseated, occasionally emesis following. This pain became more marked after a months time, until she began to refuse food. At no time was patient hungry. Emaciation began, which increased very rapidly. Menstruation which began at eleven years and had always been regular now ceased during the entire summer. After these symptoms in the stomach became so pronounced, the pain in the head ceased. Three years ago this October I saw her first. She presented the following symptoms:

Inspection. — Emaciation very great; complexion sallow; face pinched, entirely expressionless; eyes dull and sleepy looking. Upon questioning most all symptoms were in region of stomach. Upon the ingestion of the smallest amount of food, she would go into the most violent paroxysms of pain, lasting from a few minutes to a half hour, at which time they would subside, she being perfectly at ease until she could be persuaded to take more food with a repetition of the same foregoing symptoms. The desire for food was entirely gone. Bowels only moved when a laxative or enema was given. She had no trouble in sleeping—sleeping eight hours or more without waking. If crossed or interfered with in anything she wanted to do, she would have a crying spell that would last for an hour or two. She would take a dislike towards anyone that would reprimand her in the slightest. Upon palpation of the abdomen, no tenderness could be elicited. On the right side corresponding to the ascending colon, I outlined a hard mass, extending almost the entire length from the illio cecal valve to the transverse colon. The question in my mind was, that it was one of two conditions; first, impacted feces without complete obstruction; second, sarcoma of the ascending colon. Dr. Dugan being called in consultation, after examination, expressed himself the same way. I came to determination by giving high colon douches and allowing the water to remain for awhile and at same time massage practiced over this mass. After some two or three such treatments the mass began to break up, this being passed out and upon inspection finding it dry and hard, with a great deal incased in mucus. At the same time, large quantities of mucus was passed, being ropy, tenacious, etc. After a weeks time, this was entirely removed, leaving an entirely clean bowel. To my surprise none of the gastric symptoms disappeared but became much increased, to the degree of which it was impossible to beg, persuade or force her to take nourishment. The only two recourses I had to sustain life was by feeding per rectum, or through stomach tube. Without her knowledge, the latter was selected, she being a child that would submit to any treatment. I told her we would have to wash out stomach, to which she readily consented. Preparing a pint of warm milk before going to her room, not allowing her to see it, I then washed the stomach out with a quart of saline; then stepping behind her passed the milk into stomach, allowing it to remain without any discomfort or pain whatever. This was kept up the rest of the winter sustaining life, and at the same trying to overcome this imaginary pain about stomach, which was finally accomplished after about two months. This was brought about by suggestion, persuasion and agreeing with her as much as possible. Strange to say the first thing she took into her stomach of her own accord without going into those paroxysms of pain was allowing her to take an apple, chewing it up, swallowing the juice and ejecting the pulp. This was the first score. She continued doing this for quite awhile and by

some sleight-of-hand performance succeeded in getting her to swallow the pulp with satisfactory results. Beginning from this, she slowly drifted back to taking solid food until finally quit using the stomach tube. She now weighs 121 pounds which is almost double her weight from my first visit. Other treatment consisted of hydrotherapy as much as could be practiced at the residence; watching the bowels closely and before she became too weak to get out of the house, plenty of fresh air and as much exercise as she could stand without fatigue. Drugs given consisted of tonics, stimulants, inunctions of cod liver oil, panopeptone, predigested beef, etc.

DISCUSSION.

DR. G. B. JENKINS: The essayist has chosen one of the most beautiful of the functional disorders for the subject of his paper, for it seems to me that it is one of the most interesting of the nervous diseases. I am glad to see that he follows the classification of the French authors because it makes the subject easier to handle. As to the other classifications, Dana says there are three classes of hysterics: A hysterical temperament possessed by every woman and most men hysteria minor in which there is a hyterical temperament plus some of the stigmata and crises, and hysteria major in which there is a preponderance of stigmata and severer crises. The Doctor's case falls into the second class—that of hysteria minor.

He speaks of a cortical origin. Molecular changes in the central nervous system, probably in the cortex, is the most satisfactory explanation of the pathology. There is nothing definite on that score.

As to the sensory conditions, the most frequent are the anæsthesias. These symptoms are always present. Undue impressionability and lack of will power are the most marked and would probably account for the fixed idea at the base of the disorder.

Hystero-epilepsy is rare in this country. We have plenty of hysteria minor, presenting various stigmata the most common of which is anæsthesia.

In the paralyses there is no loss of the reflexes except possibly the plantar reflex with the persistence of the patellar tendon reflex which Buzzard thinks is the most positive characteristic in making a diagnosis. This and the anæsthesia are two strong points in making a diagnosis. Along the line of crises Dr. Riesor's patient presented the gastric symptoms. According to the English authors these are the starving girls exhibited over the country. Food is given them unnoticed which acoounts for some of the cases not losing flesh. Some lose flesh and become skin and bones. Another typical condition is the tendency to tears presented by this patient.

As to the treatment, the Doctor has outlined that. We all know how difficult it is to treat these patients in their homes and we should insist

that they be taken to an institution where they will have the monotony of an intelligent and unsympathetic management.

Dr. Riesor is to be congratulated upon the results in his case. The age and sex are the most favorable points in the prognosis.

DR. MOREN: I can add but little after hearing the excellent essay and the discussion of Dr. Jenkins. The longer I practice medicine and the more cases of hysteria that I see the more firmly I am of the opinion that there is something at the base of this mental disturbance whether it be functional, anæmic or what not.

In regard to Dr. Riesor's case I would like to make one suggestion and that is I believe that the physicians in this section of the country pay too little attention to gastroptosis and nephroptosis, which is the foundation of many of these mental disorders with gastric crises. Every disease has been called hysteria, and every disease can cause it, and hysteria can complicate every disease so that it is a very complicated subject and one that many of us fall down on.

In regard to the etiology, I believe that the foundation in many instances, as Dr. Jenkins says, is a hysterical temperament laid in early childhood. Lack of self-control is a factor in many cases.

In regard to the diagnosis, I believe that the statement of Dr. Gray is very true. He said that he excluded every disease and then told the patient that he had no disease that he knew anything about. Yet I think that is a very good diagnosis because after we go over the patient and make a diagnosis of hysteria what have we made? You do not know what it is. We have to differentiate neurasthenia from hysteria more than from any other disease. In all typical cases of neurasthenia there is depression while in hysteria we get stimulation. That is an important point in differentiating the two conditions.

In regard to the treatment, I am an advocate of the cautery in many instances. Recently I saw a little girl with a hysterical arm. She was referred to me and I made a diagnosis and advised the cautery. After the first application she remained well for two weeks. Another application was made and she got better and now she is going to school. In another instance of a little girl that had a tender back, just that typical hysterical temperament that the Doctor spoke of, I told her that there were three ways to cure the trouble: the first was a gentle, easy way; the second was by the sparks—and I turned the machine on; and the third way was to put a red hot iron up and down her back. I told her that we would try the mild treatment first and in two or three days she came back and said that she was getting along fine, and I do not think she will need any heroic treatment. I used hot applications as suggested by Dr. J. Morgan Vance of this city. In a very short time the little girl was perfectly well and went to school.

DR. GOSSETT: I believe that if we will inquire into the causes of hysteria in women we will find that disturbances of menstruation have

something to do with it. It is a delicate subject to bring up before the mother, bnt I believe that we will find beginning menstruation a cause in a great many young girls.

I have seen two cases of hysteria in men. One was an acute case and the man had had some trouble with his wife and when I went over he was having hysterical convulsions. It took four or five men to hold him in bed. I gave him a hypodermic of apomorphine and he quieted down in twenty minutes. Another case was in a nervous boy. He was in a room by himself and his mother went in and found him unconscious. I told her to let him alone and he would come out all right. These are the only cases of hysteria in men that I have seen.

We know that a Negro is hysterical when it comes to religion. I would like to ask the members of the Society if they have seen a case of true hysteria in the Negro? I do not mean religious excitement.

DR. POPE: It may be that there are members of this Society who hear of more of these cases than I do. I cannot say that my experience has been so glowing in the treatment of hysteria. Hysteria has always been to me to be a grave disease to treat. I have just sent home well to the southeastern part of the State a lady who has had hystero-epilepsy. She never could have gotten well if she had been treated at home. That woman had all the symptoms described in the text books.

While the surgeon mentioned as using the cautery is certainly a very fine surgeon, I cannot think that his is a proper treatment for hysteria. While he may relieve some cases by the use of the cautery I never use it in the treatment of hysteria. These cases are of the minor condition —of the second class as Dana describes. I have never seen—and I have had fifteen years experience with these patients day in and day out—a case cured by the use of the cautery. I have tried it but it does not work with me. I put them to bed in a room with a good nurse and follow out the complete isolation and rest cure. In some of the minor cases it is not necessary to do this. Oftentimes the therapy that you adopt forms the basis of a new psychical ideation.

I find a great standby in apomorphine in the convulsive conditions, and I think we should use it, not only when they have convulsions, but when they look like they are going to have them.

DR. BARBOUR: I am sorry I did not hear the paper. I have eujoyed the discussion very much. I only want to report one or two cases that I had the pleasure of seeing. One was a young man twenty-one or twenty-two years of age. I used apomorphine hypodermatically and he sent for another doctor. He has not yet cured him. I believe in using the apomorphine for the convulsions.

It has been my experience that these hysterical cases are weak and run down and they need building up. I think these cases require more sympathy before we can cure them.

I have seen one or two cases in children. These children have had

mothers who have made a great deal over them and they get the hysterical ideation from the mother. I can conceive now how some of the children will probably be good candidates for attacks of hysteria.

DR. WATHEN: I enjoyed the essay exceedingly and I think this subject is interesting to every department of medicine, and I heartily agree with what one of the gentlemen said in discussing the paper that while many cases have a slight cause as the basis, a large number of cases have a functional disorder that would account for all the symptoms of hysteria. Now I have personally seen a fair number of cases, especially in neurotic women, where they have gone to the neurologist and the general practitioner, and have finally gotten into the hands of the surgeon and have been cured. Now what is the reason for the failure? Simply because the real cause was overlooked, and the commonest cases have been those women who have had rather large fibroid tumors of the uterus. These women have never borne children and have a neurotic temperament and these tumors would rise to all of the symptoms of hysteria. I know one neurotic woman who has been treated in this city and in other cities all over this country and the real cause of this condition has been a large fibroid tumor. It has been removed, and while it has been only a few weeks since the operation, she has improved sufficiently to show that all the symptoms are going to disappear. There are other cases where there is at first some organic lesion that gives rise to hysteria and after that is cured the hysteria continues. I had a very prominent woman in Louisville who sprained her ankle and for weeks she complained of the swollen condition of her ankle and could not walk. I believe the swelling was due to the fact that she did not use it. It was painful when first injured and she believed it was still painful.

DR. MEYERS: I thank the essayist for his paper and I want to congratulate him upon the result he got in that case because I saw the patient for him several times when he was out of the city. I am like Dr. Moren in that I believe that the actual cautery is of great value in the treatment of these cases. I believe with Dr. Gossett that some cases in young girls are brought about by disordered menstrual functions.

DR. RIESOR (*closing*): I have nothing to say except to thank the gentlemen for the discussion of the paper. This was a very interesting case and I am well pleased with the result.

GASTRIC ULCER.*

BY J. ROWAN MORRISON, M. D.

GASTRIC, or peptic, ulcer is not a very uncommon disease, the post-mortem records of different observers showing from 1 to 5 per cent. of all autopsies. More often the scar of an old ulcer is found than the open ulcer. The great difference in percentage is probably due to the fact that peptic ulcer is found more frequently in some localities than in others, and seems to be due to the difference in diet and method of living in these localities, and to the character of patients entering the hospitals at which the post-mortems are made.

Great difference also exists in the reports as to the relative frequency in males and females, some observers claiming a ratio of women to men of 4 to 1. Others say ulcer is more frequent in men. Welch gives 60 per cent. in women and 40 per cent. in men. Reigel says that in his clinic some years the number of women was greater, other years the men, giving as a result of a number of years' observation a slightly greater number in women.

The condition is found frequently in servant girls and domestics. Whether this is because they lead irregular lives and pay little attention to their food and hygienic surroundings, or whether it be that they compose a large class of patients from which we get our statistics, is a question that is not definitely settled. Shoemakers, tailors, and men working at trades where there is more or less constant pressure over the region of the stomach from their position or from the instruments with which they are working compose another considerable class of cases. Also tight-lacing in women is said to be a potent cause.

Round ulcer is rarely seen before the fifteenth year, and most frequently between the twentieth and thirtieth years in women and thirtieth and fortieth years in men. A number of cases have been reported in young children.

The seat of the peptic ulcer may be anywhere in the stomach or first part of the duodenum, above the opening of the common duct. Mays has reported a most interesting series of cases occurring in the duodenum.

The definite origin of round ulcer is still a question undecided. That many things may be causative factors there is no doubt, and there are certainly numerous most interesting theories advanced concerning it. These ulcers can be experimentally produced in many ways by mechanical, chemical, and thermal means, yet if the animal be healthy they heal readily. Daetwyler found that if he produced an ulcer in a dog that had been previously rendered anemic, it healed much more slowly than in a healthy dog.

There is every reason to believe that frequently, from the mechanical irritation of foods or foreign bodies and from very hot or caustic sub-

* Read before the Alumni of the Louisville Medical College.

stances, there is produced superficial ulceration of the gastric mucosa, which, the patient being healthy, readily heals. These are not true round, or peptic, ulcers.

For a long time a close relation has been considered to exist between anemia and chlorosis and gastric ulcer, as these conditions were so frequently associated. It has been proven that in these conditions there is generally a hyperchlorhydria, and later experiments have shown that there is also a lessened alkalinity of the blood, conditions which would favor gastric ulcer; but many patients have hyperchlorhydria, chlorosis, and anemia without having gastric ulcer. According to Virchow, the trouble is due to thrombosis of a nutrient artery, followed by digestion of the resulting dead tissue of the area supplied by the artery; but ulcers caused by tying the artery in animals heal much more readily than the ordinary gastric ulcer. Probably a combination of the foregoing causes is frequent cause of chronic ulcer, especially as we know that anemia or chlorosis favor disease of the arteries.

Some observers—Sidney Martin—claim that a number of ulcers are due to bacterial infection, as after burns and puerperai septicemia, the ulcers being caused by an infected thrombosis. According to Letutle, the infection may be caused by direct invasion of the glands from some other source of infection in the intestinal tract, he having seen a case of dysentery which developed all the classical symptoms of gastric ulcer.

Frequently the symptoms of peptic ulcer are well pronounced and make its diagnosis rather easy; in other cases the symptoms are almost entirely latent, and this accounts for so many ulcers never being recognized until post-mortem. The pronounced symptoms are pain associated with tenderness, vomiting and vomiting of blood, and increased hydrochloric acid. Sometimes the only symptoms complained of, until there be hemorrhage or signs of perforation, is an ill-defined dyspepsia.

Pain is present in most all cases, and comes on in from twenty minutes to two hours after eating and is worse at the height of digestion, as it is caused by the irritation of the food and the increased acidity at the time. Some patients say that the pain is relieved soon after eating. This condition is found in persons having a constantly-increased hyperchlorhydria and is due to acid being mixed with the food, thus rendering it less irritatingto the ulcer.

The pain is burning in character and is often extremely severe and continues until the stomach is emptied of its contents, when it subsides, leaving a feeling of soreness. If there be a contracted pylorus, with a delay of food, or if there be adhesions to other organs, the pain usually continues for a long time. It is usually confined to a limited area over the epigastrium and frequently to a corresponding area in the back, between the seventh and tenth dorsal vertebra. If there be adhesions to other organs, the pain may radiate in any direction.

Tenderness is a most valuable symptom. It is found over the area

occupied by the ulcer and is limited in extent. It is also frequently found posteriorly between the seventh and tenth dorsal vertebra. The tenderness is marked, being more severe than that associated with any other disease of the stomach.

Vomiting often occurs at the height of pain and causes relief of that symptom. The vomited matter is very acid and contains an increase of hydrochloric acid. Hematemesis is often the first symptom that suggests ulcer. The amount of blood vomited may be from such a small amount as to need a microscopical examination to determine it to such a hemorrhage that the patient collapses or dies from the loss of blood.

The color and character of the vomited blood depends on its quantity and the time it stays in the stomach. If vomited at once, it will be bright red; if retained for some time, it will be blackish and disintegrated. The blood may pass into the intestine and cause tarry stools —melena.

The treatment depends on the condition of the ulcer. In very acute cases, or if there has been recent hematemesis, the stomach must be given absolute rest. Put the patient to bed and withhold all food by the mouth, not even allowing water until the most severe symptoms are past. Allow the patient to hold small pieces of ice in the mouth occasionally and give enemeta of salt solution for the thirst. The rectal feeding should be kept up until the pain has subsided and the acute spmptoms are in abeyance, even if this be for several weeks. Then start with small quantities of milk, plain or peptonized, or meat jellies. The prepared foods, as panopepton, etc., should not be given now, as the alcohol they contain is too irritating. Gradually increase the food as symptoms admit, keeping the patient in bed or very quiet for three to six weeks, as the symptoms demand. In less serious cases, it is not necessary to withhold food by the mouth, but to limit it to small quantities of the blandest character.

Bismuth subnitrate or subcarbonate in large quantities, thirty to sixty grains before meals, is the best medicinal remedy. Alkaline waters or salts, as Carlsbad or phosphate of soda, given well diluted before breakfast, do much good, by both their alkaline reaction and by overcoming the constipation from which many of the patients suffer.

The pain is generally relieved if food is properly attended to. If there still is burning, magnesia or sodium bicarb., preferably the former, in combination with dilute hydrocyanic acid, will usually overcome this. When the pain is very severe it may require the hypodermatic use of morphine.

General tonics, especially an unirritating form of iron, should be given as soon as the stomach can stand it. Hemorrhage should be treated as in other cases of internal hemorrhage.

Many cases where perforation occurs can be saved if the perforation is recognized early enough and operated on immediately, the success

depending on the time at which the operation is performed. Much is being written by the surgeons about gastric ulcer. I believe they would lead us to believe that more cases of gastric ulcer should be operated on than is necessary. Operative procedure, I believe, will do much good when the ulcer will not heal after careful and painstaking medical treatment, or where there is a tendency for the trouble to recur.

TONSILLOTOMY.*

BY G. M. PEAVLER, M. D.

OF the different means that have been suggested of reducing tonsillar hypertrophy only one can be said to have come into general favor, that of cutting off the enlarged gland. Other methods are so seldom used that we think it is not worth the while to consider them.

Of the operation it may be said that many children need it who never have it performed, and, on the other hand, it may be said that many are subjected to the operation who do not need it. Many parents seem to be possessed of the idea that tonsils are harmful appendages and that the child will not do well until they are removed; hence it is a common thing for children to be brought to the throat man for an operation when on examination there is found to be but little or no hypertrophy, and consequently no need for an operation.

If the doctor is a man who is a little unscrupulous and is anxious to cut something, he will operate in such cases and collect his fee; if, on the other hand, he is honest and conservative, he will state the facts and allow his patient to return home unmolested.

Having determined that our case is one that requires an operation, we must decide whether it shall be done with or without an anesthetic. This will depend on two things; the age of the patient and whether or not the case is complicated with adenoids. In very small children, where both tonsils are to be removed, it is usually best to give a general anesthetic. In a large per cent. of the cases of tonsillar hypertrophy we find the post-nasal vault filled with adenoids. I think I am safe in saying that in more than 50 per cent. of the cases the two pathological conditions are found to co-exist. It being necessary in every case to remove the adenoids under a general anesthetic, the tonsillotomy should be done at the same time.

In these throat operations chloroform is considered unsafe; hence ether is the anesthetic given.

The instruments needed in performing tonsillotomy are a mouth-gag and tongue depressor and a tonsillotome. There should always be at hand means for controlling hemorrhage, for this unwelcome emergency

* Read before the Southwest Virginia Medical Society, January, 1905.

is always a possibility which we should never fail to be prepared for. We shall refer to this later.

There are several means by which the enlarged tonsil may be removed. It may be done with knife, punch, scissors, cold snare, electric snare, or tonsillotome. The tonsillotome is the instrument in most general use, there being more glands removed with the tonsillotome than all other instruments together.

Of the tonsillotome there is quite a variety. Most operators of experience use one of two instruments—either McKensie's or Mathiew's. For general use we prefer McKenzie's. McKenzie's tonsillotome recommends itself for its strength, its simplicity, its safety, and its efficiency.

Whatever pattern of instrument may be selected, there should be as many as three sizes, since it is difficult to use a large instrument in a very small throat, and even more difficult to remove a very large gland with a small instrument. The ring of the instrument should fit snugly around the tonsil, so that when the gland is pressed into the opening it will steady the instrument and render slipping less likely when the blade is pushed home.

One precaution is necessary. The anterior pillar, which is often adherent to the tonsil, should not be included in the guillotine, since it contains a small artery, the severing of which sometimes causes troublesome hemorrhage. If the pillar is adherent, it must be separated previous to the operation.

At the time the cut is being made the instrument should be pressed firmly against the side of the throat in order that a sufficient quantity of the tonsil is included. To secure this result it will often be necessary to press against the tonsillotome with the index finger of the left hand.

If we are operating without an anesthetic, we should aim to do the work rapidly. After the first tonsil has been excised, it should be quickly detached from the tonsillotome and the other tonsil removed before hemorrhage begins or the child has had time to take in the situation and set up an argument of resistance. In this rapid way of operating, both tonsils can often be removed at the same sitting, while a little delay after the removal of the first gland would certainly put a stop to further procedure.

There is a belief among the laity, which is shared to some extent by inexperienced physicians, that if only a slice is taken off a tonsil the gland will atrophy. This is entirely erroneous. The only part of a tonsil that undergoes atrophy is the part that is cut off. The part that remains does not become smaller, but, on the contrary, may even continue to show hypertrophic changes up to a certain age. The only danger that we have to fear in tonsillotomy is that of hemorrhage.

Regarding the question of hemorrhage, I can but say that it has been most rare in my experience, having seen only one alarming hemorrhage in a practice of thirteen years. Lefferts, who has treated this subject

with some detail, takes a rather serious view of the question. He thus summarizes his experience: "That, though the operation of tonsillotomy, thoroughly performed, is usually unattended by untoward results, still it is not entirely free from alarming, sometimes dangerous results; and that, though these be the exception, that they should not be ignored, and that the surgeon must always be prepared both mentally and manually to cope with a hemorrhage that may unexpectedly occur." It would probably not be right to omit the statement that extreme cases are on record in which the hemorrhage after tonsillotomy has been fatal, and that in others it has been necessary to tie the common carotid artery.

It would be proper to state that in nearly all these extreme cases the bistoury has been used instead of the safer guillotine.

When the bistoury is used there is danger that it will cut too deeply at the base of the tonsil, wounding the tonsillotory artery at its anastomosis with the lingual. Sometimes the bleeding is due to an abnormal distribution of the arteries, sometimes to a rigid condition of the gland, which prevents the immediate closing of the small vessels. It is sometimes due to the hemorrhagic diathesis. Age may be said to be a predisposing cause, as hemorrhages are more likely to occur in adults than in children.

The means of controlling hemorrhages may be classified as follows: Styptics, ice, mechanical compression, and stitching. Of the first class we think there is nothing better than tannin made into a paste or saturated solution and applied to the bleeding surface with a cotton mop. In fact, it is our practice to prepare this paste and have it ready before each operation. As soon as the tonsil is cut off we apply the tannin, which checks the ordinary bleeding, and in some instances, it may be, averts a more serious hemorrhage which might otherwise occur.

Ice may be held in the mouth and slowly swallowed or a lump of ice may be caught in forceps and pressed firmly against the bleeding surface. If these measures fail, we must then resort to one of two things: We must pass stitches through the bleeding tonsil and tie them so as to exert pressure on the bleeding vessels, or we must use a tonsil hemostat, of which Stoerk's instrument is supposed to be the best. While these two latter measures are attended with their difficulties and inconveniences, they are to be preferred to that more formidable operation of ligating the common carotid or external carotid artery.

Secondary hemorrhages sometimes occur as a result of eating solid food, or some undue exertion, within the first two or three days after the operation. Hence after a tonsillotomy the patient should for two days eat soft food and should keep himself reasonably quiet; especially should he abstain from work or any violent exercise.

The question of the advisability of removing enlarged tonsils seems to be no longer open. Their injurious effects are so obvious, the benefit

following their removal so apparent, and the risks of the operation are so slight, that there should be no hesitancy in advising it when the necessity arises.

Three questions are often asked when a tonsillotomy is proposed. *First*, whether there is any risk from hemorrhage; *second*, whether the tonsils are likely to grow again; and, *third*, whether their removal will likely have any effect on the voice or other bodily function. As to the question of hemorrhage, that has already been sufficiently discussed. We can say in answer to the second question that, if the tonsillotomy has been thoroughly done, there is little likelihood that the operation will ever have to be repeated, though there are some exceptions to this rule. We know a child on whom we have twice performed tonsillotomy and who at the present time has tonsils much above the average size.

The third question, as to whether or not the voice is damaged by the operation, is the one in which many persons are most interested. Immediately after the operation there is sometimes a startling change in the voice, due to the palatial muscles not being able at first to adapt themselves to the changed relations. After a few days, or weeks at furthest, this trouble disappears, and the voice is markedly improved in quality and resonance.

It would perhaps hardly be credited that prejudice still exists against the operation from a belief that it may arrest sexual development. To all such questions most positive answers may be given that nothing but ultimate good can follow from this operation if done in suitable cases.

A CLINICAL LECTURE.*

BY WILLIAM SEAMAN BAINBRIDGE, A. M., M. D.
NEW YORK.

Surgeon New York Skin and Cancer Hospital; Attending Surgeon New York Children's Hospitals and Schools; Adjunct Professor of Surgery and Operative Gynecology, New York Post-Graduate Medical School and Hospital; Consultant New York Home for Destitute Crippled Children.

A CLINICAL lecture on cancer was recently delivered by Dr. William Seaman Bainbridge in the clinic room of the New York Skin and Cancer Hospital. A number of patients were presented whose cases illustrate the different stages of cancerous disease and the results of operative treatment.

In his introductory remarks Dr. Bainbridge emphasized the fact that at no time in the history of America and probably of the world at large has the subject of cancer been so much in the minds of the people as at present, partly because there is apparently a real increase in its frequency, because it has carried off so many distinguished and useful citizens, and

* Reported by Loy McAfee Ingbram, M. D.

also because of the many theories as to its origin and cure which have been exploited within the last few years. He quoted statistics from the United States Census to show that from 1850 to 1890 the mortality from cancer increased from 33.5 cases to every 100,000 population. The more accurate diagnosis of the present time, and the fact that more cases are reported, do not entirely account for this statistical increase.

In speaking of the unsatisfactory status of our present knowledge of cancer etiology, Dr. Bainbridge dwelt upon certain practical facts which are so far established as to be accepted by the medical profession. The more important of these are as follows:

1. All cancer begins as a benign growth.

2. There is, therefore, a true precancerous stage, in which removal is a sure means of relief.

3. The disease is absolutely local in its beginning, and if fully extirpated a cure should result.

4. Extension may take place by direct infection of the surrounding tissue, but it is usually through the lymphatic or blood channels.

5. There is a varying degree of malignancy, some growths tending to return much more readily than others.

6. The system is poisoned by the production of toxins.

7. General malnutrition, as well as diminished vitality of the noncancerous tissue in the neighborhood of malignant disease, as a rule, tends to increase the rapidity of the local extension and renders more likely the development of metastases.

The treatment of cancer was briefly epitomized by Dr. Bainbridge, as follows:

I. *Non-Operative Treatment.*—(1) Arsenic paste and other caustics; (2) liquid air, X-ray, Finsen light, and radium; (3) bacteriotherapy; (4) serum therapy, which is, as yet, only in its experimental stage.

II. *Operative Treatment.*—(1) Removal, as far as possible, of all benign growths, especially those subject to chronic irritation or repeated trauma; (2) when malignancy is present, early removal of the cancer, with a margin of a quarter or a half-inch of healthy tissue, and the extirpation of lymphatic vessels and lymphatic nodes in close relation to the disease; (3) in advanced cases as radical operation as is compatable with life; (4) when it is impossible to remove the disease, palliative operation for the amelioration of suffering and the prolongation of life.

The cases presented were classified as follows: 1. Pre-cancerous stage (benign tumors); 2. Early cases; 3. Advanced cases; 4. Cases of irremovable but operable cancer.

The following patients were presented to illustrate the first class:

1. *Angioma Hypertrophicum*, in a boy about two years of age. Child was perfect at birth but when two weeks old a small blue spot appeared under the skin of the upper lip just below the septum of the nose. This increased in size rapidly until at the time of operation, May 6,

1904, the tumor practically embraced all the upper lip, extending well up around the alae nasi and somewhat into the nasal cavity. The growth was extirpated as completely as possible, the incision extending on to the sputum in both nostrils and around the alae nasi. To prevent sloughing from too great tension a considerable redundency of mucous membrane was left at the vermillion border. This redundancy was removed five months later and the lip shaped. When presented at this clinic, five months after the second operation, the scar is practically imperceptible. No tendency to return growth.

2. *Periconicular Fibroma of Breast*, in a single woman twenty years of age. At the time of operation, March 15, 1905, the entire right breast was found to be somewhat enlarged, nipple not retracted; a tumor the size of a lemon was found below the nipple, and two smaller tumors on either side of the breast, near the margin. Several enlarged glands found in the axilla. Through a circular incision below and to the outer side of the breast, at the juncture of the breast mass and the chest wall, the breast was separated from the pectoralis major and the capsule incised. Through incisions radiating toward the nipple in the substance of the gland the tumors was excised. The enlarged axillary glands were removed through the first incision. The capsule of the gland was sutured with catgut, the entire mamma replaced, and the wound closed, absolutely no mutilation resulting.

3. *Fibro-lipoma of Back*, resulting from a sharp blow received two years previous to appearance of growth, and five years before operation; female, colored; aged 44. At the time of operation, May 18, 1904, tumor weighed three pounds, and was found to develop from the deep connective tissue between the first and second layers of muscles, 2½ inches below the scapula. Removed by circular incision over the most prominent part of the tumor. Wound healed by primary union and patient was discharged in eight days. Very little pseudo-keloid formation, which as well as true keloid, is so common among negroes, resulted.

A number of patients were presented to illustrate the second class, early cases of cancer, possibly the most interesting being the following:

1. *Carcinoma of Right Breast*, in a woman 73 years of age. When operated upon, November 21, 1904, the tumor was about the size of a small egg, hard, nodular, adherent to the skin, but movable on the pectoral muscles. For about three weeks before the operation tumor was tender, and pain was referred to axilla. A modified Halsted operation was done, the entire breast, the larger part of the pectoralis major, and the glands of the axilla, being removed. The patient demonstrated to those present that she had perfect use of the arm on the affected side.

2. *Epithelioma of Lower Lip and Glands of Neck.* Male, aged 75. About one year ago a small pimple appeared on the left side of the lower lip, disappearing in about three months under treatment with a caustic paste. Five months later a similar pimple appeared on the right side of

the lip, but this persisted despite caustic pastes and electricity. The patient came under Dr. Bainbridge's care early in December. At the time of the operation, December 29, 1904, the glands of the neck were not palpable, there was a hard mass on the right side of the lip and a slight indurated spot on the left side remaining after the use of caustic paste. Under chloroform and oxygen vapor anesthesia a wedge-shaped piece was taken from the right side of the hip, also a small wedge-shaped piece from the scar on the left side. The sub-maxillary gland and others in close relation therewith were removed from the right side. The wound was closed with silk and healed by primary union. The apparently unaffected glands on the left side were left pending pathological report. This report showed squamous cell epithelium on the right side of the lip and glands of neck; left side negative. Acting upon this pathological diagnosis the patient was discharged. Two months later he returned to the hospital with palpable glands in the left side of the neck. Recurrence probably came from the left side, which, despite the negative pathological report, was undoubtedly cancerous. At a second operation, March 27, 1905, all glands in the left side of the neck were removed, and a suspicious spot of hardness on the right side at the base, close to the alveolar process, was excised.

The third class, advanced cases, was illustrated by several patients, the two most interesting being given below:

1. *Epithelioma of Nose.* Female, aged 60. For thirteen years has been treated in various cities and by various methods, but despite of all interference the cancer has steadily grown worse. Operation February 15, 1905. An incision was made over the middle line of the nose, under the eyebrow, under the eye, down on the cheek. All diseased tissue, including a portion of the nasal process of the superior maxilla, was removed, the eye and the nasal duct being saved. A month later the edges of the wound were freshened and the surface of the wound covered by a flap taken from the inner surface of the arm on the affected side. The arm was placed over the head, the flap, still attached to the arm, was turned over and sutured by its inner margin to the face, and the head and arm encased in plaster of paris, the opposite side of the face being exposed. When the wound was dressed five days after the operation the flap was apparently healthy.*

2. *Extensive Carcinoma of Tongue and Neck.* Male, aged 49. Mother died of cancer of breast at age of 74. No history of specific disease. Used alcohol freely. Smoked twenty cigars a day for twenty years. Cigar always held in left side of mouth, resting against that part of tongue which subsequently became the seat of the disease. In May, 1902, patient first noticed a small pimple, half-way back on the dorsum of the tongue. When he came under Dr. Bainbridge's observation (December 26, 1903) there was a hard, crater-like ulcer (3 by 2 by 4.5

* The flap has been detached and at the present time the wound is entirely healed.

cm.), involving the left anterior third of the tongue, except at the tip. No glands palpable at this time. Microscopic examination of a section of the ulcer, made by two independent authorities, confirmed the diagnosis of a very vasicular epithelioma. Immediate operation being refused, potassium iodid, a mouth wash and tonics were prescribed, and systematic X-ray treatment employed for nine weeks. The patient's general and local condition grew steadily worse. This treatment was discontinued March 1st, by which time the growth had extended to the right half of the tongue and induration of the floor of the mouth was evident. Some cervical glands were distinctly palpable on both sides of the neck.

On March 11th, under chloroform and oxygen vapor anesthesia, the following operation was performed: First incision, across the neck practically from the tip of the left mastoid process to that of the right, and below as far as the thyroid cartilage. Second incision, along the anterior border of the left sterno-cleido-mastoid muscle to within an inch of the clavicle. The submaxillary and sublingual glands on either side were removed and the salivary ducts extirpated clear into the mouth. Many cancerous glands were removed from the region of the tonsil on the left side to the dome of the pleura, and on the right side from the tonsil to the division of the carotic artery. The wound was closed except for a small drain at the lower part. The mouth was next forced open and part of the large cauliflower mass on the tongue cut down with Paquelin cautery. The cauterized surface was coated daily with Whitehead's shellac. The wound healed by primary union.

On March 28th, a second operation was performed, when the left corner of the mouth was incised as far back as the edge of the masseter muscle, the tongue drawn out and completely removed by an elliptical incision on the floor of the mouth encircling the tongue in front and on each side. A flap of the mucous membrane and muscle from the right glosso-epiglottic fold was used in making a bridge of tissue across the fauces in front of the epiglottis. The wound in the floor of the mouth was closed by chromicized catgut and covered with shellac. The wound in the cheek was closed in the usual way and shellac applied.

April 21st, the patient was discharged cured. He weighed on entering the hospital 129 pounds, 139 when discharged, and 160 to-day. He is apparently perfectly well, is able to masticate even solid food, to taste, to talk intelligibly, even to sing.

The fourth class, the irremovable but operable cases, was illustrated by several interesting cases in which relief from suffering and prolongation of life for a longer or shorter period is all that can be expected.

1. *Epithelioma of Tongue.* Male, 36 years of age. For three years was treated for syphilis, which did not exist. When epithelioma was recognized the right half of the tongue was involved by an ulcerated tumor the size of a quarter; a large number of the glands of the neck of

the affected side were involved; the patient was suffering intense pain, and the condition had progressed to such an extent that there was little chance of total removal of the disease. November 25, 1904, the glands of the neck and the right half of the tongue were removed. In March, 1905, the patient returned to the hospital. He had been apparently well up to three weeks before, when the neck began to swell just below the ear and he suffered considerable pain. A second operation was performed when the external carotid artery on one side was extirpated in its entirety by the Dawbarn method, each branch being tied off separately.* As much as possible of the diseased tissue was removed. No recurrence found in the mouth.

2. *Carcinosis of Abdominal Organs.* Male, orthodox Hebrew; 40 years of age. Had been treated for a year at eight or ten dispensaries for indigestion. When he entered the hospital, the latter part of December, 1903, he was vomiting everything eaten and was very weak and emaciated. Stimulants and rectal feeding had to be resorted to. There was tenderness in the region of the stomach, where a tumor the size of an orange could be felt. When operated, January 5, 1904, a cancerous growth was found to involve part of the greater curvature and posterior wall of the stomach, with some constriction at the pylorus. There were nodules of carcinoma on the liver, in the omentum and transverse mesocolon. An anterior gastro-jejunostomy was performed by the McGraw method. The patient made an uninterrupted recovery and at the end of ten weeks resumed his work as tailor.

In May, 1904, he began to vomit again. In this instance, however, vomiting differed from the first, in that he would eat all day, his abdomen would swell, he would retch, but could not relieve himself by vomiting until he pressed his hands over the abdomen from right to left.

The patient was operated upon a second time in June, 1904, when the growth was found to have invaded the artificial communication between the stomach and the intestine, shutting off completely the passage of the food into the distal loop of intestine; thus the proximal arm of the gut was dilated, forming, as it were, an accessory stomach in which the food accumulated during the day. Another communication was established between the stomach and intestine by the McGraw method between the dilated proximal arm of gut and the anterior wall of the stomach high up, and between the proximal intestinal arm and the intestine below. The patient made a speedy recovery and six weeks after this operation began doing full work as tailor. During the last three months he has had considerable pain and the mass in the abdomen has grown steadily in size. He has lost a little flesh lately, but still weighs 135 pounds.

* Three weeks after second operation the external carotid artery on the opposite side was removed by the Dawbarn method. Patient has been discharged much improved.

APPENDICITIS.*

BY C. W. FLEENOR, M. D.

HOLSTON VALLEY, TENN.

MR. PRESIDENT AND GENTLEMEN OF THE SOUTHWEST VA. MEDICAL SOCIETY: I feel that I am due this body of distinguished medical men an apology for consuming your valuable time with a subject so often heard and discussed in most all medical gatherings. But so long as the physicians and the surgeons entertain diametrically opposite opinions regarding the proper proceedure in the treatment of appendicitis, I feel justified in claiming your time as a general practitioner, and again I might claim that it is a disease belonging as much, if not more to the physician than the surgeon, and then if need be justify my claim by report of cases. First I hold that it is certainly more important for the physician to thoroughly understand and familiarize himself with the disease, than it is the surgeon—for doesn't it almost always happen that it is the physician, who in appendicitis, unlike most all other surgical conditions is first called upon to give medical aid, and it is upon the family physician's shoulders that falls the responsibility of the disease, at a time it is invested with its greatest responsibilities, and at a time the fate of the patient depends on the detail and accuracy of observation, the acuteness of diagnosis, and the promptness of execution. We have for consideration:

First—Catarrhal appendicitis.

Second—Appendicitis with a local abscess.

Third—Acute perforating and gangrenous appendicitis.

Fourth—Recurrent and relapsing appendicitis.

I shall not attempt to enter into the pathology of the different kinds spoken of, but the catarrhal form is evidently the most common, and when called upon to treat it, we should as a rule deal with it very differently to the last three classifications.

I am frank to admit that it is very hard for me to always distinguish clinically the different varieties of appendicitis, and sometimes I wonder if the surgeon can at all times be absolutely positive of the pathological condition he is dealing with. And it may be our failure to recognize the accurate pathological condition, explain the diversity of opinion in regard to the mode of treatment, as well as the time for surgical indefference.

The cause of this very prevalent disease and seemingly more so every year is the colon bacillus and streptococcus bacteria, which may originate from irritation produced by hardened fascial masses, foreign bodies, etc. Traumatism in all probability often produces it. Indigestion appears to act as a cause, in that the foods here provokes a catarrh, and brings about anomalous constrictions of the intestines. And from

*Read before Southwest Va. Medical Association at Bristol, Tenn., January, 1905.

my observation in five cases of appendicitis I have treated in the last eighteen months in the logging camps out in the mountains, I am convinced that the course indigestible food that these men lived on, from day to day, must have in this indirect way of setting up a catarrh, produced the disease—or I don't know that I have much authority for the idea, but could they not have gotten it by infection as we would contract typhoid fever?

Lagrippe and rheumatism as infectious diseases may indirectly it is said produce the disease. But we wish to speak more extensively of the diagnosis of appendicitis. And we should, as I have previously mentioned, as general practitioners especially, be thoroughly familiar with all its symptoms and readily grasp every phase and type, that we may make an accurate and prompt diagnosis. And in order to do this we should keep constantly in mind its four cardinal symptoms, namely: Pain, tenderness, rigidity, and temperature.

We will notice, first, that pain comes suddenly, and it may be referred to anywhere in the abdominal cavity. The pain is lancinating, cramp-like, colicky. The pain, as a rule, will correspond with McBurney's point, but not always, and pain in any other region of the abdomen does not exclude appendicitis, for the different positions which the appendix may occupy in the abdominal cavity and the different portions of it that may be affected, also the point of involvement of the sympathetic nerve fibers would make a difference in the location of pain. When the appendix points downward toward the left, pain may be felt along the spermatic cord, and this may cause contraction of the testicle, as in kidney stone.

If the appendix is behind the cecum, pain is referred to the back, to the kidney, and along the course of the ureter, or to the liver and upward to the right shoulder. Dr. Kirby, of Baltimore, reports a case in a young lady who had no symptoms other than pain in the coccyx.

Rigidity of the muscles of the right side, as I said before, is one of cardinal symptoms, and it is a very important symptom, as it is the result of peritoneal inflammation, and the rigidity is usually in proportion to the severity of the peritonitis, and it is very marked in cases of diffused suppurative peritonitis, and this marked rigidity, or muscle-spasm, is often sufficient to mask any tumor mass, which, after the patient is anesthetized, will all disappear, and the mass can be made out very plainly.

We can be right positive that we are dealing with appendicitis when we find rigidity and distinctly-localized pain in the right side, especially when we have the rise of temperature and extreme tenderness over McBurney's point. And with these symptoms, if we find a tumor, we can be most positive we have appendicitis with an abscess. Rigidity is a very important symptom, for I don't know of any other disease of the abdominal cavity in which you find such marked rigidity, and in three

out of the five cases I have seen recently, had this marked rigidity of the muscl of the right side. In all the cases I have seen the temperature was a fair guide to the kind of appendicitis I was dealing with. In all the suppurative cases temperature ranged from 102 to 104, and the catarrhal cases; not at any time over 102 F. But if we rely on the temperature in the mouth, I think we will often find it very deceptive, and it is always best to get the rectum temperature, and it often is two degrees higher than in the mouth. But we should not make a diagnosis of appendicitis because we are having constipation, temperature, and pain, for they are often deceptive and must be considered along with the other symptoms to be of any diagnostic value. Vomiting, distension, with sour diarrhœa and cramp-like pains over the abdomen, are symptoms of importance.

It is not all to know and be familiar with the symptoms, but we should know what other diseases have similar symptoms, and, while I have not the time to take them up, yet feel that to only mention them will help. Typhylitis is said to resemble appendicitis in its symptoms, but most authors recognize it as part of appendicitis, and doubtless is. We can differentiate it from typhoid fever by the history of the case—sudden onset of appendicitis, tenderness, rigidity, etc.

From tuberculosis of the cecum—and under this heading I wish to ask permission to report what has been to me a very interesting case. Mrs. V., age about twenty-six; been married six years; no children, no specific history, and no tuberculosis in the family. First year after marriage was taken with what her physician called ulceration of the rectum, dicharging pus throughout the bowel constantly. She claims to have been confined in bed and not to be able to be up and around for two or three months at a time, and she has been confined to her bed with this discharge from the bowels at three difierent times. She moved from North Carolina to Tennessee, and had not been living here but a short time until her old trouble returned, and she was again confined to her bed for months, but finally, under the treatment of my colleague, Dr. Dulaney, recovered sufficiently to be out again. But the last time she was taken she began to have pain in right hip and knee. Back of leg greatly swollen and tender, and I could make out a distinct mass in the right side, very tender to the touch. Temperature was in the afternoon 103, as a rule. When this discharge from the bowel was profuse the tumor in the right side would diminish in size, but if it should cease would grow in size, showing that it was an abscess draining through the rectum, but in the last twelve months this discharge ceased, and she not having any physician for a month or so, it ruptured on the outside, over the anterior superior spine of the ilium, and through this opening there is a constant discharge of pus. The woman would never allow any kind of an operation to be performed on her, and she is still living. If this is not a case of tuberculosis of the cecum, I can't name it, and I will be glad to hear from anyone on the diagnosis of the case.

Sometimes we find it hard to know if we are dealing with intestinal obstruction or appendicitis, ptomain poison, renal colic, and gall stone, all of which we should be on the constant lookout for. But we shall for a few moments consider the most important step in the disease, and indeed it is a very painstaking step, or should be, and one that is not strewn with sweet-scented roses, but instead is laden with the hardest and most perplexing problems. Not that the treatment is so complicated, for we have only two modes of treatment—medicine and surgery—but to me is and always will be, I should judge. When is it a medical case, and when shall we call in the surgeon and turn over the case to him? If some of my distinguished friends who are surgeons will give me the key to unlock this hard problem, I will promise him now that when his time comes to step in, I'll doff my hat and gladly step down and out of the case with great pleasure, for I feel all physicians recognize the importance of surgery in a great many cases. But, while I am not unconditionally opposed to operating in appendicitis, I would love to go on record as being absolutely opposed to this wholesale operating. When some fellow has made up his mind he is a second Dever in this appendix business, and he goes around with scalpel up his sleeve, and every fellow he comes across that has a pain anywhere from the collar-bone to the pubes, and has his appendix with him, lays his belly wide open just to see how long it is, or in what position the little fellow is lying, and to pocket a big fee. I am opposed to this business. I don't know any class of men that are calculated to do so much harm and sadden so many happy homes, and help fill our cemeteries with poor, unfortunate victims as the young, and old doctors it may be, who have a craving ambition to be surgeons. I hold all surgeons should first have a hospital experience and hospital facilities before undertaking major surgery. If you are looking for practice, get you a sheep-killing dog and do vivisection, and if he dies the county is that much better off, and you a wiser man.

Some eminent doctor has said in the first attack he seldom operated, and in the second attack he usually operated, and in the third he almost always operated, and my experience has been that in a large majority of the cases he will never operate, for I have seen very few cases of recurrent appendicitis, and I don't believe they recur as often as the authors would have us believe. Most all cases of catarrhal appendicitis will get well under medical treatment, and without any of the distressing sequelæ which so frequently follow the surgeon's knife.

Simply put the patient to bed and keep him there. Apply hot fomentations to the right side. Keep the bowels active with salines, and better to keep the stomach absolutely at rest for the first forty-eight hours. And avoid opiates if possible, and when you get a case that does not yield readily to treatment, surgery in the hands of a competent man always affords the best treatment.

DUTY OF MEDICAL EXAMINERS.*

BY HUGH N. LEAVELL, M. D.
LOUISVILLE, KY.

THE destiny of every life insurance company, no matter how colossal its resources, rests in the hands of its medical examiners. It is the character of individual risks that has made them what they are to-day—the greatest financial institutions of any age. They have come to be of such magnitude that the financial policy of all nations can be regulated by their influence. They are one of the nations' greatest resources. Their power for good is incalculable. If so exerted, their power for evil could wreck the strongest nation on earth. Behind all stands the medical examiner. His responsibilities or duties may be classified into four subdivisions:

First—His duty to the company.
Second—His duty to the applicant.
Third—His duty to the agent.
Fourth—His duty to himself.

His duty to the company consists in watching the interests of that company to the best possible extent, seeing that no impostors gain admission. Health is the prime requisite to be considered. The habits of the individual are important in their bearing on the longevity of the applicant. No matter how healthy the applicant may be at the time of admission, if he has habits which conduce to drunkenness, loss of sleep, immoral tendencies, or to combativeness, his expectancy of life may be materially lessened, or he may commit suicide or become demented. His family history is important as showing the hereditary tendencies and predispositions. It is needless to mention any of the diseases which, occurring in the parents, tend to shorten or change the character of life of the applicant.

All of you are acquainted with the pernicious effects of tuberculosis, cancer, rheumatism, and syphilis occurring in the parents as an influence on their offspring. While the medical examiner should at no time become an agent for his company, he can very often further the interests of all parties concerned if he maintain silence or say, when he meets the applicant, that he is taking a good step to take insurance in so good a company. Nearly all companies write practically the same class of policies, and he will not be making an untrue statement; besides, he will place the applicant in a good attitude to the company.

The responsibility of the medical examiner to the agent is very important. One of his first duties is promptness in making the examination or in filling the appointments made by the agent. The agent in many cases has consumed much time, extending in many instances over many months, in bringing the applicant to the point of signing the application. We all know the tendency of humankind to change their

* Read before the Academy of Medicine, of Louisville, June, 1905.

minds, and the applicant for life insurance is no exception ; if anything, he has these attributes accentuated. A man in perfect health seldom thinks of death, the chief means by which, through insurance, our families are made beneficiaries. After the agent has thoroughly imbued him with the idea of martyrdom, and he has come to the point of signing the application, we should seize this as the golden opportunity to "cinch" him with an examination. There can be no doubt that the agent is sometimes inconsiderate of the examiner. He should not make appointments which conflict with the examiner's office hours. He should try to make the appointment between certain hours and not at a stated time, so that the examiner may have some time to attend to any emergency call that might come up. The examiner should not under any circumstances betray his agent by giving the applicant's name to an agent of another company for which he may also be an examiner. The examiner should, as far as possible, prevent the agent from seeing the application after he has made the examination, if he has reason to believe the agent is unscrupulous, for fear he may make erasures and changes favorable to the applicant. The examiner should impress upon the agent the fact that he expects to treat every one concerned fairly, but will not be a party to fraudulent methods.

The duties and responsibilities of the examiner to the applicant consist in seeing that the applicant gets all he deserves, and no more or no less. When the medical director of the company gets the application, he looks at it from a cold-blooded and calculating standpoint. All he has to judge from is the statements recorded by the medical examiner. Many trivial ailments can be magnified and intensified by the examiner until the medical director must of necessity decline an application which should really be accepted. On the other hand, the applicant may have had an attack of gall-stone colic or appendicitis, which may be twisted by the examiner in such terms that the director is led to believe the applicant merely had an acute indigestion from indiscretion in diet.

It is a serious thing for a man to be rejected by a life insurance company, as it means that he will have trouble in getting into any other company, and it is our duty to see that every man who really deserves it should get his policy. Very often men of a nervous temperament will present a fast heart during an examination which normally is not so. It is our duty to make a second examination under such circumstances to ascertain whether it is really his normal condition or induced by the excitement of the examination. If the questions are put to the applicant in an easy conversational manner, it often reassures him and gets rid of the nervous excitement induced by a curt manner. Any acute trivial ailment which the applicant may have should be very correctly recorded as such, so as not to leave the medical director under the impression that seriousness may result. Temporary excessive exertion on the part of the applicant may bring the applicant to the examiner in an unfavorable

light, while not affecting the health or longevity of the applicant, in which the company is chiefly concerned.

The duty of the examiner to himself implies the attainment of accuracy in the details of management of the previous duties. The examiner's own selfish interest demands that his work be conscientiously and accurately done. The company has many ways, often unknown to the examiner, of detecting faulty methods of examination, and they are often punished by a discontinuance of his position.

The companies are, as a rule, exceedingly careful in their selection of a medical examiner. He must not only have a requisite knowlege of his profession, but he must have the moral qualifications of honesty and truthfulness.

The responsibilities of the medical examiner may be summed up as follows: "To thine own self be true, and it shall follow, as the night the day, thou canst not then be false to any man."

DISCUSSION.

DR. HENRY ENOS TULEY: In life insurance the positions of medical examiner and medical director should be viewed from two entirely different standpoints. Dr. Greene, in his recent text-book on life insurance, made the rather astounding statement that the largest percentage of rejections were made upon risks recommended by medical examiners. Of course, very few insurance companies would, or do, accept any risk which has not been recommended by the medical examiner, but the largest percentage of risks rejected are those recommended by medical examiners. This statement shows that, as a rule, medical directors look upon the risks from an entirely different standpoint from that of the medical examiner; he simply looks at it from a cold, calculating standpoint, taking into consideration a great many items which the examiner does not have before him. What the medical director wishes is an accurate statement from the examiner as to what he thinks of the applicant at the time of examination; whether or not he will live out his allotted time.

Frequently the voluntary applicant for life insurance will conceal very important facts. Only to-day I had to pass upon a risk recommended as first-class by the examining physician, but whose application for insurance had been postponed by one company and rejected by another. In replying to the question whether or not he had ever changed climate for his health, he stated that he had not, but upon writing to the company which had rejected his application I learned that several years ago he had gone to Asheville, N. C., for his health, and remained there two years and six months, and that tubercle bacilla had been found in his sputum. He had gained some six or seven pounds, but he was certainly not a favorable risk.

Many times unscrupulous medical examiners can make very favor-

able records out of very unfavorable answers, and this, I am sure, is done. Many of the frauds that have been perpetrated on life insurance companies can be traced to some unscrupulous doctor, who is, of course, in collusion with the applicant, agent, or beneficiary. That such a thing is possible is evidenced by the case reported by a medical director of a company in a nearby State, in which the applicant stated that he did not desire to give any facts as to his family record, there being something in connection with his father's death which he did not care to put on paper. The examiner pressed him to state the facts, as it might be possible to fix it up in some manner, whereupon the applicant informed him that his father had been executed by process of law for homicide, but stated that if this fact had to be put in the application he would withdraw it. The examiner stated in the application that the man's father had fallen from a platform while addressing an audience, which shows how easy it is for unscrupulous examiners to distort statements.

It may be of interest to examiners to know that very few companies finally accept a risk merely upon the report of the medical examiner; that is, every applicant for insurance is subject to "credit reports" obtained through some retail credit association, which has an office in every town of any consequence in the United States, and regular blanks are sent to the companies, containing statements of the financial condition of the applicant, his family record, and any illnesses which he may have had. I have frequently obtained reliable information in this manner which did not coincide with that contained in the medical examiner's report. This necessitates taking up the matter by correspondence and postponing the application for some time. Thus it behooves the examiner to put down all the facts, but not to magnify any trivial matter.

In regard to tuberculosis, at the last meeting of the American Academy of Medicine a prominent medical director of Washington stated that 12 per cent of the losses to insurance companies were due to deaths from tuberculosis.

DR. J. K. FREEMAN: As insurance companies have greatly increased in number in the past few years, most of us have to pay some attention to life insurance examinations. I regard it as a branch of medicine which deserves a little more attention than it has been given. I think a medical examiner, if he is the right sort of a man, is in a better position to judge the applicant than the medical director. We must study character, because, as has already been said, they will sometimes present their cases in the most favorable light possible, and we must learn to interpret their answers correctly and to know how to put it in black and white so as to give the medical director the proper impression.

In the little life insurance work I have done, I have noticed that very frequently in answer to the question what the applicant's father or some other relative died of, they will say pneumonia. I then ask them how long the illness lasted, and, if the answer is to the effect that it

lasted longer than two months, the chances are that it was something other than pneumonia. Then I usually ask a number of other questions and talk with the applicant for a while in an endeavor to learn whether the illness was really pneumonia or tuberculosis.

It may be that some of the applicants whom we examine for life insurance are men with whose lives we are familiar, and know in our own minds that, while there are things in their history which prevent them from obtaining insurance, they are likely to live as long as we do, but, of course, these men must be rejected, as the company must be given the benefit of any doubt which may exist.

In regard to heart lesions and examination of the heart, right here is where the examiner should be very careful. It may be that the applicant is a stranger to you, and that by cross-questioning him, taking his expansion, counting his pulse, etc., you get him a little out of humor, and it is a great mistake to examine the heart immediately afterward. I have been examined twice, and that mistake was made in both instances, and I have a number of times observed men laboring under nothing in the world but nervous excitement show a murmur, and, of course, this is enough to cause the rejection of the applicant.

DR. P. RICHARD TAYLOR: The examinations required by most insurance companies allow the examining physician but little latitude and no discretion. They have fixed rules and fixed questions to be asked. The examination is so arranged that, if it is followed to the letter, the answers are truthful and so written, it is all the examiner has to do. The company, as a rule, will not allow him to decide whether or not a policy should be issued to the applicant; they simply want him to find out whether or not the applicant's heart is functional, ascertain his measurements and expansion, and, above all, his family history, examine his urine for possible structural changes in his kidneys, and then record all these facts properly in order that the medical director may determine whether or not he is a good risk. It is true that at the bottom of the application is a little blank space, and the question is asked, "Do you consider the applicant a good risk?" And 99 per cent. of medical examiners will answer "Yes," but this carries very little weight.

DR. HUGH N. LEAVELL: I do not believe that the medical director of an insurance company expects the medical examiner to merely fill in the blank spaces in the application, but that it is intended he shall find out everything that pertains to the longevity of the applicant, whether laid down in the application blank or not. Take some of the questions asked; for instance, "Has the applicant ever had any asthma or shortness of breath?" I do not suppose there is a man in the room who has not at some time had "shortness of breath." Merely putting down "Yes," without going into detail, will militate considerably against the applicant's chance of getting insurance; it may mean that he has organic heart lesion or lung trouble; on the other hand, it may mean

that as a result of going up and down stairs rapidly a number of times he became out of breath. I think it would be foolish for any medical examiner to answer "Yes" to that question, unless he intends to imply that there is some organic lesion which interferes with the applicant's breathing. I have seen applications filled out by some of our country brethren in which the questions seemed to have been asked and answered in a merely perfunctory way, necessitating considerable correspondence in order to obtain explanations and details.

In regard to the use of intoxicating liquors, very few medical examiners are capable of answering this question satisfactorily. I have here an application blank of the State Life Insurance Company of Indiana, in which the questions asked on this subject cover the ground more thoroughly than in the application blanks of any other life insurance company I know of; for example:

9. In the use of alcoholic, malt, or vinous liquors, to which class do you belong? *First*—Total abstainers. *Second*—Moderate drinkers. *Third*—Free drinkers.

10. Have you ever been, or are you now, addicted to the excessive or intemperate use of alcoholic, malt, or vinous liquors? If so, when and for how long.

11. Are you accustomed to the daily use of alcoholic, malt, or vinous liquors?

12. If you use malt or alcoholic liquors, state which, and the most you use in any one day or week? Answer explicitly.

13. Are you engaged in any way in the sale or manufacture of alcoholic, malt, or vinous liquors?

Merely answering "Yes" or "No" to the above questions will give all the information necessary. Application blanks are not all so explicit, however. Take, for instance, that of the Mutual Life of New York, which allows the medical examiner a great deal more latitude, merely asking the two questions: "Are you addicted to the use of alcohol?" and "Have you ever been addicted to the use of alcohol?" The answers to these questions can be so modified as to lead the medical director to believe that the applicant is almost a total abstainer, when in reality he may get on a "tear" four or five times a week. I think the medical examiner is allowed a great deal of latitude, and that he is not supposed to merely ask the questions in an automatic, machine-like way.

It is often a hard matter to get a position as medical examiner for large life insurance companies. Not only are the applicant's medical qualifications carefully looked into, but his moral and financial standing are also taken into consideration.

It frequently happens that just about the time a man has reached the point where he is beginning to make something out of examinations, some physician who has had the advantage of a little training at the Home Office is sent here to take charge of the medical examinations

and the erstwhile medical examiner thrown out. It is rather hard that after a man has served the company faithfully for several years should be completely ousted by a man sent here from some other part of the United States, and shows that the position is not worth the time, trouble, and expense of going after. However, when we happen to have them, it is our duty to give them our most careful attention, for the benefit of the company, the applicant, and the agent, as well as for our own personal interest.

OSTEOPATHY.

BY DOUGLAS GRAHAM, M. D.,
BOSTON, MASS.

AN excellent masseuse from a neighboring city called on me a short time ago and said, "The doctors in our town will not recommend massage, and their patients who need it go to the osteopaths." The inevitable result of this is that when their patients are benefited, as they sometimes are, their physicians are denounced for a conservative lot of old fogies, who do not want their patients cured in any other way than by the use of drugs, whereas they might just as well have had the honor and glory of the cure by advising massage at the proper time and seeing that it was correctly done. But many times patients do not ask advice of their physicians about such matters, and when they receive no benefit or are injured, then they come back to the fold of their own good shepherd much better sheep than when they departed. Especially is this the case with many of the patients of the osteopathic surgeons, who often have their spinal columns yanked in a most unmerciful manner by the osteopaths, when they ought to be kept quiet, and then they return meeker than Moses, and require a much more prolonged course of immobilization. Indeed, I am not so sure but that some of my orthopedic patients are slightly tickled over this, though they say not a word. I should be. But what shall we say of the physician who is lacking in backbone as I quietly and placidly look on while his patient is being treated by an osteopath? Surely he ought to know that in some cases valuable time is being lost; in others, that his patient is liable to be injured. We are told everything that the osteopath does is scientific, very scientific. Some even claim that it is nothing but scientific massage. Unfortunately for the patient, it is too often scientific. A few illustrative cases may be of interest:

CASE I.—An elderly lady was brought to my office not long ago with a shoulder that had been deliberately, willfully, and ignorantly sprained four months before by an osteopath who was giving her scientific movements for her general health. The osteopath who treated this patient

was a member of the firm of the osteopathic college. The patient had the consent and approval of her physician to try osteopathy, though he knew of an excellent masseuse who had often helped him to get patients well. Both he and his patient are now well cured of osteopathy.

CASE II.—A patient of mine who had recovered to a wonderful extent from hemiplegia under massage and remedial exercises, hearing of the marvelous cures wrought by osteopathy, thought he would like to try it and please his friends. He went to one distinguished osteopath, who set his bones for three-quarters of an hour every other day; to another afterward, who did the same thing for fifteen minutes every other day. After each seance he was so fatigued that when he got home he had to go to bed. After massage and exercises from me he was always refreshed and went away smiling.

CASE III.—A short time since there was under my care a very intelligent masseuse suffering from neurasthenia from overwork. The previous winter one of her patients wished to go to an osteopath. As she herself was suffering from a backache at the time, she thought she would be a John the Baptist and go and have her back osteopathized in order to see if it were safe for her patient to go. This masseuse has a natural enlargement of one of her sacro-iliac articulations, which the osteopath said was out of joint, and proceeded to replace it. She was in so much pain immediately that her physician had to give her a hypodermic of morphia.

CASE IV.—A boy suffering from pseudo-muscular atrophy was brought to me for consultation. He had been getting along very nicely under gentle massage and passive motion when his mother, hearing of the wonders of osteopathy, decided to have it tried on him. At each "set-to" the osteopath turned over every rib in the boy. He was greatly exhaused after each time and grew rapidly worse.

Cases treated by osteopaths are continually being reported to me by physicians and other friends. A few of these might be of interest.

CASE V.—A patient suffering from curvature of the spinal column was treated by an osteopath, who attempted to correct the deformity. She has been paralyzed below the curvature ever since.

CASE VI.—A young woman with a lateral curvature of the spine high up went to an osteopath, who attempted to set the bones, since which she has suffered from paralysis of one arm.

CASE VII.—A neurasthenic patient wished to be treated osteopathically. The osteopath found what he thought was the cause of her trouble in a supposed dislocation of one of the cervical vertebræ. He turned her head sharply to one side and then gave it a sudden jerk to the other side. Ever since she has been unable to get up and walk on account of dizziness.

CASE VIII.—A lady fell and slightly injured her hip. A young osteopath who had just graduated pronounced it a dislocation, and at

once gave it some "scientific" movements, and set it in the presence of a large number of people in the parlor of a hotel. The patient immediately got up and walked, amid the applause of the spectators. A surgeon who had been called arrived rather late on the scene—after the performance was over. He explained to the satisfaction of the assemblage and to the discomfiture of the osteopath the absurdity of the whole procedure. The patient took part in a dance the following evening.

CASE IX.—A patient suffering from involutional melancholia at the change of life was treated by an osteopath, who professed to have found the cause of her trouble in two abnormal curves of the spinal column and later to have cured them. Even though insane, the patient could not believe she had been cured of what she thought must be incurable in her spine because it had been there so long. She grew worse and had to be sent to a hospital for the insane.

CASE X.—A friend of mine had a patient suffering from pleurodynia. The doctor was obliged to be out of town for a time, and the patient sent for an osteopath, who rubbed and pounded and set his bones for an hour and then gave him the battery. After letting the patient rest for a brief period, he repeated the operation. The doctor was sent for in a hurry when he got back and found his patient black and blue and in a comatose condition.

The city editor of one of our large daily newspapers, who a short time ago was somewhat captivated by the brilliant reports of osteopathy, told me the other day that it would not take long before they ran themselves out, as they injured so many people. Distinguished lawyers and others similarly situated have said the same to me. But let us give the devils their dues. Among so many of them there must be some naturally good manipulators, gifted with a little common sense, in spite of the absurd theories and practices that they have been taught, and who cannot fail to benefit the right sort of cases when they come to them, but woe betide the wrong sort of cases.

An argument frequently used by laymen in favor of osteopathy is that it is legalized in many of the States. Did anyone ever yet hear of a bogus college that could not get a charter from a State legislature? Within a short distance from here we have the spectacle of a student who has not yet finished his course nor paid his dues, occupying the position of a full professor in an osteopathic college. A student in a Western osteopathic college, after having studied for fifteen months, was told that if he took five months' practice with one of their regular practitioners he would be allowed to graduate. He complied with their request, but was not allowed to graduate. He then started a college of his own and appointed himself Secretary, Treasurer, Dean, and Professor of Physiology, and graduated from his own college. After this he got a bill put through the Legislature for the legalization of osteopathy. Smart fellows these, and the kind that the osteopaths make heroes of!

Osteopathy is nothing but a crude, rough, awkward sort of massage or movement done by people who know little or nothing about either, and who assume to know everything and who shut their eyes to all that has ever gone before them in the way of manual treatment. It is doubly true what Dr. John K. Mitchell says, "that if physicians had only been wide-awake to the value of massage in suitable cases, the osteopaths would never have had a chance."

SOME REFLEX OVARIAN CONDITIONS, THEIR CAUSES, ETC., WITH REPORT OF CASE.*

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IN inviting your attention to this subject, I do so for two reasons; first, because a paper on this subject has not been presented to this Society for a number of months or years; and second, the emphasis given the subject in my own mind by a case recently under my care.

It has been said that, scientifically, a woman's brains were in her pelvis and this to a large extent is true, for nothing disturbs the whole system of a female so quickly as some trouble in her generative organs.

For us to understand the reflex conditions caused by disease in the pelvis it is worth our while to study for a moment how such conditions may be brought about. In all mammals there exist two brains of equal importance, to the individual and to the human race. One is the cranial cerebrum, the instrument of mental progress and physical protection. In it resides the consciousness of right and wrong, the seat of progress, mentally or morally, and in it lies the idea protecting life and the fear of death. This brain is so manifest that it seems to do all the business of the nervous system, and it may be truly said that the knot of life lies at the base of this brain and with the prick of a needle life could be snuffed out.

The other brain, so to speak, is in the abdomen, situated around the root of the cœliac-axis, and superior mesenteric artery. It lies just behind the stomach and consist of a blended network of nervous ganglia and is made up by the union of splanchnics, the two pneumogastrics, and right phrenic. It really consist of two ganglia united by cords surrounding the cœliac-axis; the ganglia are better known as the solar plexus. This great brain has two functions, viz: Nutrition and rhythm, and while it does not snuff out life so quickly a derangement of it does it just as effectively as the cranial brain. This great sympathetic system not only initiates, sustains, and prohibits rhythm, but manages nourishment and

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controls secretion. It receives sensations, and transmits motion, and presides over the glandular system and the organs of generation. As example of this in mumps or parotitis, we may have orchitis in the male and ovaritis in the female, and when the ovarian gland is removed troubles may arise in the parotid.

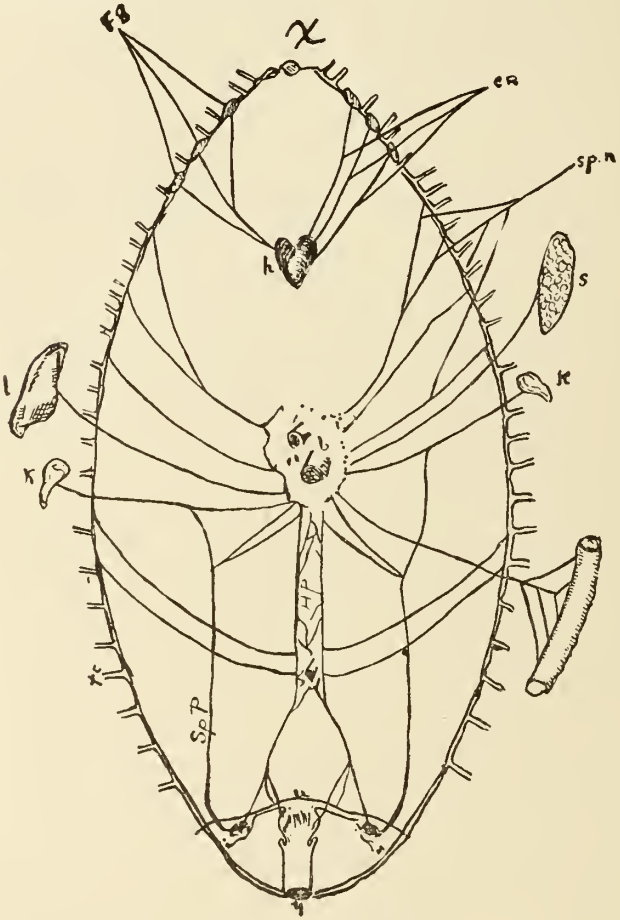


FIG. 6.—(BYRON ROBINSON.)

A schematic drawing of the sympathetic nerve. (*x*) Ganglion of Ribes. (*y*) Coccygeal ganglion (impar.). (*l.*) Liver. (*k.*) Kidney. (*s.*) Spleen. (*sp. p.*) (Spermatic) ovarian plexus. (*i.*) Intestine. (*a. b.*) Abdominal brain (center of reorganization). (*sp. n.*) Splanchnic nerves. (*c. n.*) Cardiac nerves. (*h. p.*) Hypogastric (aortic) plexus (coming from three sources). (*u.*) Uterus, tubes, and ovaries. (*h.*) Heart. (*c. g.*) The three cervical ganglia (secondary center of reorganization). The sides of the ellipse represent the lateral chain of the sympathetic. One nerve strand goes from the abdominal brain (*a. b.*) to each viscus to represent its plexus. Any irritation starting in any viscus will pass to the abdominal brain, where reorganization occurs, and the forces are redistributed over the plexuses to every viscus.

Again as evidence of the power the sympathetic has, we notice in the lower animals, whose cranial brain is not so large, a striking illustration of the control over secretion. Cattle when loaded on cars in their fright cause Auerbach plexus to throw the gut wall into contractions and

Meissners plexus secrete so fast that an active diarrhœa may come on in a few minutes. In the human being we have another arrangement known as the vasomotor center, which is distributed along the spinal cord and in the medullæ, and when a derangement of the abdominal ganglia occurs, this also becomes deranged and the skin becomes waxy pale or scarlet red; under this category comes the cold hands and feet of women and the hot flushes and flashes of the menopause.

The distribution of the sympathetic nerve is peculiar. It consists of three great parts; first, a double lateral chain of ganglia from the skull to the coccyx; these ganglia correspond in number to the vertebræ except in the cervical region where the seven are blended into three, the ganglia no doubt represent the original segmentation of the body. The lateral chain of sympathetic ganglia are connected with all the cranial and all the spinal nerves, and with the sacral, and a noticeable feature is that they are only connected in a slight way with the spinal in comparison with the connections with the cranial and sacral.

The second part consists of four great plexuses anterior to the vertebre called the prevertebral plexuses: They are pharyngeal, cardiac, epigrastic and one in the pelvis. The third part is especially interesting and consist of a peculiar mechanism at the ends of each nerve situated in the viscus, and in a diagnostic way this periphral apparatus is the most important to the physician, as he can only make his diagnosis by studying the disturbances of the periphery of nerves in the viscus—*e. g.*, in dyspepsia Auerbach's or Meissner's plexus may be at fault.

From these brief remarks on the anatomy of the sympathetic system it is plain to the observer that at least four things are proven: (1) That this abdominal brain so to speak, is the great nerve center of the throacic and abdominal viscera; (2) it causes visceral rhythm; (3) that each viscera has its own peripheral ganglia or plexus in the organ; (4) that the duration of the rhythm is determined by the ganglia situated in the organ. These facts being true, there are then two great factors in visceral disease, viz: Impaired nutrition and reflex action.

Chronic disease of the generative organs creates malnutrition in the digestive tract by disturbing its normal rhythm, and by reflecting irregular rhythms into the digestive tract during its time of rest and repose. It does not matter what the disease of the generative organs is so that irritation arises and is reflected to the sympathetic system, the patient will pass through the following five stages, unless relieved: first, irritation, this may keep up for years; second, indigestion, the long continued irritation passes up to the abdominal plexuses and there it is sent out to the plexuses of Meissner or Auerbach's of the digestive tract and too little, too much, or disproportionate secretion is the result, this causes indigestion, this produces the third stage that of malnutrition, this in turn causes the fourth stage that of anæmia, and then the patient goes to the fifth one rapidly, viz: neuroses. In this long continued neuroses

a disturbed mechanism arises in the nerves, they loose their fine balance of integrity in motion, sensation and secretion, and being in an irritable state they are put to riot by every source of attack, and should this irritation be kept up long enough there is no question but that a pathological change arises that can never be repaired.

Gynecologists frequently note that a neurosis begins with anatomic changes in the sexual organs, and the neurosis exacerbates the sexual disease; in other words, the extent and intensity of the pathology of the genitals may not stand in definite relation to the neurosis; *e. g.*, who can measure the burden of a woman with non-development and atrophy, *i. e.*, before the uterus and ovaries have become fully developed; perhaps through some imprudence, hyperæmia occurs, which terminates in atrophy or hypertrophy. Usually the atrophy proves the most serious to the patient, for it is a fact well known to the surgeon and gynecologist that small solid tumors with short or no pedicles situated in the pelvis are the ones that give the most pronounced symptoms, while a large one with a pedicle long enough to allow the tumor to move out of the way of pressure, may give very few symptoms, if any at all.

In atrophy the uterus and ovaries are small and hard, or the ovaries alone may be at fault, being in the so-called cirrhotic condition. Where the ovaries and uterus are in this condition, nerves are caught and imprisoned in this cicatricial tissue, irritation is started, neurosis is produced, and finally a psychosis takes place, which, if allowed to continue and the patient survives the anemia and malnutrition long enough, will end in some of the many forms of insanity.

The following case is an illustrative one of the worst form of the nervous symptoms that we come in contact with:

Miss M., age twenty-four, family history good, had been perfectly well up to six years ago, and while attending school she noticed that she was becoming more and more nervous and that she was having some pain at the menstrual period. With the exception of a nervous condition that came up the night of her commencement she remained in fairly good health for the next two years. But four years ago her family noticed that she was losing flesh and that she was suffering with indigestion and her nervous condition was getting more marked. This continued for only a short time, when she was noticed to have a ravenous appetite, and in the next few hours she had marked mental aberrations, in which she imagined her father killed, etc., and required attendants for several days. After this she seemed to be in a melancholic state and required some one with her most of the time, and at intervals of from a few days to two or three weeks she would develop this appetite, and then her mental state would become worse. So marked was this that she was treated for the stomach symptoms altogether by men here and at Battle Creek, where she remained for some seven or eight months under the diet and hot and cold baths that are used so much in that most famous

institution. She also during her stay there complained of pain in the region of the ovary on the right side for the first time. Hot applications were used on this, and, as well as I could find out, some form of suppositories were used in the vagina. As improvement did not take place, she returned home, and when seen by me complained of the following symptoms: Pain in the stomach after eating, constipation, some tenderness over gall-bladder and stomach, headache, some trouble with the eyes, etc. On vaginal examination there was found to be a marked hyperesthesia of the vagina, and on further examination the ovaries were found to be small and the uterus only about three-fourths the normal size. There was some tenderness in the region of the right ovary, and the menstrual period had not been seen for some seven or eight months; and on still further examination there was found to be a movable kidney on the right side. She had lost thirty-five pounds in weight, and was of a muddy color. She was only allowed by her family to eat the lightest of diet, such as toast and fruits and the foods that are prepared at Battle Creek. Her mental condition being so bad, it is hard to tell when she was in pain during the examination, and for this reason it made it difficult to tell whether I was dealing with a gall-bladder trouble, an ulcer of the stomach, a movable kidney with its reflexes, a dilated stomach, or were the ovaries giving the trouble in the stomach. After giving a test-meal and finding that the stomach was not at fault in any way above mentioned, and after determining in my mind that the gall-bladder was not at fault (more from history than from examination), I at once made up my mind that the ovaries were the seat of all the trouble, and the family was advised that a complete hysterectomy was the only relief. This was done, and since the last day of January, she has gained forty pounds in weight, and her mental condition was bright from the time she came from under the anesthetic.

This class of cases I believe to be one that is badly and sadly overlooked. They are treated for various troubles until they either die from malnutrition or reach that point where their mental condition is such that it can never be repaired, and they are sent to some asylum to drag out a most miserable existence. One of the things that stand in the way of treatment is that there is a prejudice against removing the ovaries from a young girl, or, as some would say, to unsex her. This I will answer by saying that they are already unsexed, for the ovaries have undergone such changes that there is very little or no ovarian tissue left, and this being the case, pregnancy is, of course, impossible.

The next thing is the operation to be done. Removal of the uterus is to me the only line of treatment, for here we remove the organ, as we have seen that is producing the reflex condition, and should the ovaries be removed and the uterus left in place, the patient would not be cured.

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DISCUSSION.

DR. WEIDNER: Following in the course of the last paper, this case is very interesting. I hardly know how to discuss this paper; it is liable to lead us away off the subject.

I do not like the term abdominal brain as used by some writers. Of course, we may call every little mass of ganglion cells a brain, but whether it has any independent function that might he compared to the brain is a question. We know that they must be connected with the brain and cord in order to be successful in their function. I think it is hardly justifiable to use the term abdominal brain.

If I understood the doctor right in his deductions, he holds that there are certain successive changes that take place—vaso-motor changes and anemias developing before we can have a neurosis. I think we have neuroses coming on, as I mentioned in my paper, where we have no anemias and no trophic disturbances. They may come suddenly with no premonitory symptoms of any kind. That would rather speak against his view, if I understood him right.

The Doctor cut out the tubes and ovaries, and it was probably not necessary at all. The time is now too short to show whether this case has been benefited by this heroic operation. She may lapse back into the trouble. Maybe the symptoms she has complained of were due to disturbances of the secretion of the stomach, and she simply had attacks which are so common in hypochondriac states. The gain in weight is the most favorable sign of improvement, and if it stays permanently her nervous condition will remain improved. On the other hand, you have seen cases of just exactly this kind described by different names, as hysteria and hystero-epilepsy; they are dependent upon some disturbed function of the uterus and ovaries, and they get well under proper treatment in a year or two, and the patients get well and become mothers. I would warn against the removal of the ovaries in a young woman who had not been under the proper treatment for a long time in a good institution. I think there ought to be plenty of time before resorting to operation. I think it would be an unscientific statement to say that the uterus and ovaries had no further use. I think it is one of the most difficult questions to determine whether a severe operation ought to be done in these cases of neuroses.

DR. IRWIN: The essayist has entertained us with an interesting paper and the report of a case. I tried to follow the essayist as closely as I could and also to follow the results of his treatment which appear on the surface to be very good.

The sympathetic nervous system is not cognizant of much pain; it controls the functions and nutrition of the various internal organs, and the cerebro-spinal centers do not take immediate cognizance of its work; it is only after there has been some constant disturbance that the cerebro-spinal system taken up the work and shows the derangement. In the case reported we find that there was some focus, a local point, and for the present we also find, to say the least, that the operation has shown that there was a local focus and that local focus was taken cognizance of by the cerebro-spinal system. We have two distinct systems operating in the body. One is the trophic system—the sympathetic system that controls the organs of nutrition, and the other controls the intellect and the muscular man. The first is the sympathetic and the second is the cerebro-spinal. If irritation lasts for any definite time in the sympathetic system we find that it is taken cognizance of by the cerebro-spinal system.

Churchill who, wrote many years ago on diseases of women, showed that some disturbance of the sympathetic nervous system was the most prominent element in these diseases. From that day to this we have not been able to change these views. The case in view had some local focus that was causing the disturbance, and I believe the essayist was justified in removing that local focus. I believe then that his diagnosis was correct and his treatment was satisfactory. Anything that takes the thorn out of the flesh, whether it be in the cerebro-spinal system or in the sympathetic system, must afford relief. We have this evidence before us in the case reported. The nervous system, as you know, is very peculiar in that it controls everything. Sometimes it may take quite a while before disturbances of the sympathetic system are recognized by the cerebro-spinal. I think the case reported illustrates its peculiar effect in females and sometimes in males. I think the disturbance originated in the sympathetic system, and I think it accounts for the disturbance in the cerebro-spinal system, such as the Doctor has given us in his essay. This paper has opened a very wide field for discussion, and I regret that we have not time to discuss it in detail. I appreciated the essay and wish to extend my congratulations to the man who has recognized these two distinct systems and their relation to each other.

DR. MARSHALL: I think that the essayist told us that the case had had considerable medical treatment before the operation. I do not think that it ought to have been considered at all hasty. The girl had been looked after by a number of physicians in different places. I do agree with Dr. Weidner on the point in regard to the removal of the ovaries

and uterus. We all remember some twenty or so years ago that it was then the fad to remove the ovaries for everthing that was disordered, and that only after several years of such procedure did they come back from that plan of treatment. I know that it was just at the beginning of my medical career when operations were so frequently performed, and it has been my misfortune to follow in the wake of the operation in a number of women, where, instead of benefit, injury could be charged to the operation. We have all seen these cases, and I have had some very trying cases to handle where the majority turned to morphine. I think that great caution should be used in operating on these cases, and in so far as that I agree with Dr. Weidner, yet I believe that it looks like Dr. Willmoth's case was well chosen.

DR. COOMES: I was much interested in this case, and it seems to me that Dr. Willmoth in his report did not mean to leave the idea that all neuroses occur in this way. In the second place, I would say that, if this woman was not treated long enough, it would be difficult to say when treatment should cease and operative measures be resorted to. I think he was justified in operating on this case. If I can judge, this is an infantile uterus, and this woman could never have had any children.

I think the Doctor has presented an interesting case, and he is to be congratulated upon the success of his treatment.

DR. SATTERWHITE: I have nothing to say except to echo Dr. Coomes' statement. I think the young lady and her friends should be very thankful to Dr. Willmoth for the operation. I certainly would be if she were my child. I think that the operation in every way was a success, and I hope that the prognosis of Dr. Weidner is not the correct one. I hope that she will have no return of the neurotic trouble.

DR. J. R. WATHEN: There is one point that I would like to speak to in the Doctor's paper, and that is the removal of the uterus as well as the ovaries. I believe that the failure to give relief, after the operation, in the cases that Dr. Marshall has mentioned, has been due to the fact that the uterus was not removed along with the ovaries. I am glad to see that the surgeons are now getting on the right track. I believe that the uterus should be removed every time the ovaries are taken out. The best men in Europe to-day remove the uterus in every case where they remove the ovaries and tubes. It is the natural conclusion that Dr. Willmoth has arrived at in his discussion and results. As to the reflexes, those from the uterus give rise to greater disturbances than those from the ovaries. The uterus is a useless organ after the removal of the ovaries and tubes, and where it is removed at the same time the clinical results are much better.

I reported a case a year ago to this Society in which I did a vaginal hysterectomy. This woman formerly weighed 150 pounds, and had gotten down to ninety-five. Since the operation she has regained her

normal weight, and there has been no neurotic disturbance of any kind. The proof of the pudding is in the eating. The men who get the cures do the work.

DR. E. S. ALLEN: I just want to refer especially to the secretions. We know that the pancreas, besides converting the proteids into peptones and emulsifying fats, has an internal secretion that controls metabolism, and that whenever it is removed completely we have occurring, in two or three hours after, diabetes mellitus.

If we take a portion of the pancreas and transplant it in any portion of the body, separating it from its nervous supply, we do not have glycosuria occurring. If the ovary is the seat of this trouble and we have an ovarian and a testicular secretion controlling metabolism, I want to ask why we cannot sever the nerve supply of the ovary, thereby retaining the ovary and its influence on metabolism?

DR. BAILEY: I want to thank Dr. Willmoth for the privilege of hearing this paper. I do not feel competent to discuss it.

DR. AUD: As I saw this young lady so much and from the beginning of her illness, I think it but fair to answer any question you may ask concerning her. It seems to me that the operation was justifiable, because she was a miserable person. There are some points in the history of the case that I would like to bring out. The child was always a nervous child; she lived just across the street from my home. She would have these nervous spells, and be very sick for a little while, and get well almost on suggestion. Her menstrual history was irregular. I do not remember the age at which it began. She would get over these attacks of acute indigestion apparently very easily and would relapse easily.

I want to say that when she went to the Sanitarium at Battle Creek she had one or two sisters who went with her, and while they were there they all had to take the treatment. I do not know whether they all had infantile uteri.

I believe it will be well to watch this case and see whether Dr. Weidner's prognosis is correct. I have seen such women as these marry and have children. Whether that would have been true in this case I cannot say. I cannot look back quite as far as Dr. Wathen.

I want to compliment Dr. Willmoth upon the satisfaction that his operation has rendered that family. The case appealed to me, and I want to watch the patient and see if she remains well. If she does the operation did it. Medicine has cured her and suggestion has cured her, but if she remains well there is no question but the operation did it.

DR. WEIDNER: What is the family history in this case?

DR. AUD: Her mother is a nervous woman, but her father is a man with a fine nervous system, and it is a fine family. The result of the operation is a gratification to me.

DR. W. H. WATHEN: Dr. Willmoth has presented the subject in a light that enables us to reason more correctly as to these neurotic disturbances. I can add nothing to the excellence of his description, and I shall only speak of the pathological troubles in the ovaries and uterus. For more than twenty years this has been a live subject with me, and I can recall many patients upon whom I have operated, or who have consulted me for troubles, reflex apparently from the ovaries and tubes. I have operated on many of them, removing the tubes and ovaries, and they have made complete recoveries and have remained well for nearly twenty years, and to-day are well. I have operated upon others, apparently more favorable cases, and they have not improved, except temporarily, and have relapsed finally into their former condition—some of them even growing worse than before the operation, and regretting that the overies had been removed. But in my earlier experience I did not understand the conditions in the ovaries that necessitated their removal; in other words, I could not appreciate the absence of all normal ovarian structure. Any experienced abdominal surgeon who has studied in life the appearance of the ovaries can with much accuracy say that the ovary has or has not normal ovarian structure, and when the ovary is removed a microscopic examination will bear out the findings of the surgeon. I can judge of the condition of the ovary that I am removing, and in every case where I find in women before the climacteric one or both ovaries in which the normal structures have practically disappeared, I should certainly remove them, because they are of no value, and they are probably doing harm by the compression of the periphery of the nerves, often causing intense reflex trouble.

Now, I have noted the fact in my own work in recent years that where I have removed ovaries of this character in very nervous women, often with bad nutrition, the results have been almost universally good. It is not always true that the ovaries cause local pain; sometimes they do, but not always. The reflex symptoms are as varied as can be.

Several months ago I operated on a patient for Dr. Griffiths whose nutrition was so bad that she was apparently bloodless; her digestion was such that she was constantly vomiting; she could digest apparently nothing. The symptoms were of a chronic indigestion. An exploration was insisted upon. It was agreed to by the patient and Dr. Griffiths. No trouble could be found in the stomach, except that it was dilated; no trouble could be found in the gall-bladder; none in the bile ducts or in the duodenum, or any structure in the body, except the cirrhotic ovaries, which were removed. She did not vomit after the operation, having vomited constantly before. I am informed by Dr. Griffiths that she is in a perfect state of health and has gained much flesh.

There are a great many patients that I have operated on, and the results have been just as good as in this case. I have operated on women in the past and have regretted that I did so. I have failed to operate on

women and have regretted that I did not. Within fifty yards of where I now stand there lived an elegant lady, who was my patient for a number of years, who insisted upon having her ovaries removed. She asked me why I would not remove them. I replied, "Because, madam, when you ask me in two or three years to put them back I cannot do so." Another surgeon was consulted, and the ovaries were removed. That woman's nervousness disappeared, and she is well to-day.

The question, in conclusion, is, "Shall we remove the ovaries alone, or shall we remove the uterus as well?" Now, that is a mooted question, and it frequently comes up for discussion. To-day everything must come out; to-morrow only the uterus must come out; the uterus sometimes and then the ovaries alone. In some of my cases where the uterus was not removed and the results were bad, the uterus was finally removed and the results were good. A lady on Fourth Street had the ovaries removed by Dr. Yandell in the earliest history of his work. That woman was exceedingly neurotic, more so after the operation than before, and finally she sent for me to remove the uterus. I would not do so. Afterward another surgeon removed the uterus per vaginam, and she recovered.

Three years ago a lady was operated on by one of our best surgeons, who took out the ovaries and tubes. She was worse after than before the operation. After two or three years she came to me, and I removed the uterus per vaginam—it was very small—and she recovered. Now, there are a number of instances of that sort that I can remember where they recovered after the removal of the uterus, but it was probably because the uterus was diseased. If the trouble is in the ovaries and the uterus is not involved, as you can tell by an examination in the abdomen, if you will remove the cirrhotic ovaries you will find that the patient will often get well. But if the uterus is diminutive in size, or is involved in the pathologic process, then the patient will not get well unless it is removed.

DR. WILLMOTH (*closing:* I want to thank the members of the Society for their discussion. At first to start out with I want to say something in defense of Dr. Aud who treated this case. I say that it was not his fault that he did not see this trouble. They did not stay with him but applied to others so that Dr. Aud did not have a fair chance in this case.

Regarding the diagnosis, I spent a whole week on this girl before I gave an opinion as to what the condition was. None of the doctors who had treated her had had their attention called to the tubes and ovaries. They had all treated her for stomach trouble and nothing else. She said that whenever she would eat anything her stomach would become distended with gas. They had never suspected that it was a neurotic condition and had treated her for stomach trouble. She had some symptoms of ulcer of the stomach, some of gall bladder trouble and some of movable kidney. I worked on the case one week before I made a diagnosis. I

did it by exclusion. Dr. Allen did the gastric analysis for me. I had to exclude gall bladder trouble and kidney trouble. There was but one thing left and that was a reflex condition from the tubes and uterus. There was slight tenderness over the ovaries. She was thin and it was no trouble to get the ovaries down so that they could be easily palpated.

In regard to Dr. Weidner's criticism, this girl had been in this condition for five or six years. She started out with a neurotic condition which became a chronic condition.

When this girl came from under the anæsthetic she was at herself and began to improve and has continued to improve ever since. She has gained forty-five pounds since the first of January. Now as to Dr. Weidner's statement that the time has not been long enough to say whether or not she is cured, I am not worried about her drifting back into her old condition.

So far as the removal of the ovaries is concerned in a young girl, I want to say that ovaries of this kind are already removed by nature. I am satisfied, though the ovaries have not been examined by the microscope, that there is not the slightest trace of ovarian structure in either one of them. They did not look like it when removed. They were about this size. She had not menstruated for seven or eight months. As to the question of the removal of these ovaries, there is no reason why they should be left, as they contain no ovarian structure whatever. The uterus was an infantile one. It would not have been of the slightest benefit to her if she had succeeded in getting over this neurotic condition. She never could have become pregnant; that was an impossibility for her. As you all know, there is very little said about the relation of this condition of the ovaries to mental conditions. Dr. Wathen will bear me out that the majority of these cases that present this type of mental condition have cirrhotic ovaries.

So far as the removal of the uterus is concerned, I can see no reason why the uterus should be left after both tubes and ovaries have been removed. It is an entirely useless organ then. It is one of the safest operations that we do, and if left it may give trouble afterward. As Dr. Wathen has said, it may undergo changes which may necessitate a second operation.

This girl certainly has made a most remarkable recovery, and I am not worried about her lapsing back into this nervous condition. She appreciates the relief that has been afforded her, and I do not believe there is any danger of her getting back into her old condition later on.

THE
AMERICAN PRACTITIONER & NEWS.

"NEC TENUI PENNÂ."

F. W. SAMUEL, A. M., M. D., A. D. WILLMOTH, M. D., } Editors. S. B. HAYS, M. D., Managing Editor.

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Editorial.

THE TREATMENT OF BRIGHT'S DISEASE. One of the difficult propositions of the general practitioner is the management of the diet in Bright's disease, and, in a paper lengthy and scholarly, Dr. W. H. Porter presented some remarks upon the management of the diet of patients suffering with Bright's disease, which is well worth study. In the course of his remarks upon this subject, the following is all-important, and is, in the opinion of the writer, to be borne in mind in the treatment of this most serious malady. In Bright's disease, as well as in many other affections, notably diabetes, the diet, or rather its management, is one of the potential factors for good or evil in the management of these diseases. Dr. Porter sums up the situation in the following:

"The chief and all-important treatment consists in the perfect management of the diet in accord with our advanced knowledge as to its composition and utilization by the system. Here, as in all other diseased conditions, as well as in health, the well-regulated mixed diet is the ideal one. The milk diet, which has been so long extolled in the dietetic management of all renal affections, is largely deficient in that complex substance in which the iron and phosphorus atom is combined with a proteid known as nucleo-albumin, and out of which the hemoglobin for the blood and the lecithin for the nerve tissue is formed by oxidation reduction. Hence, milk cannot be considered an ideal diet in any class of lesions in which a progressive anemia is one of the essential features, as is the case in connection with all renal lesions.

"A well-regulated mixed diet is one that is composed of both the vegetable and animal class, but in which the latter largely predominates. When nature, unaided, cannot digest such a diet, she often can be assisted by the judicious administration of medicinal agents."

A SERUM FOR CARCINOMA. In the *British Medical Journal* for April 29th, in what might be regarded a symposium on the subject of carcinoma, and especially in a paper presented by Dr. Geo. T. Beatson, of Glasgow, on this interesting subject, he reviews the work of a number of investigators who are endeavoring to work out the cause of cancer. Among many, he especially mentions the work of Prof. Doyen, who has discovered, or rather claims as the exciting cause of cancer, the micrococcus neformans and the plasmodrophora brassicæ discovered by Robertson and Wade, of Edinburgh. He states that Prof. Doyen has clinically tested his theory, and claims to have found a serum which has a positive curative effect in carcinoma. If these facts can be verified, this serum will attract the attention of the profession, and should merit a careful trial.

NOTES.

DR. ROENTGEN HONORED.—At the recent convention of the Roentgen Congress at Berlin, Prof. Roentgen was honored by the erection of bronze statue upon the Potsdamer Bruke.

THE meeting of the American Medical Association, in Portland, Ore., must be numbered as one of the most successful meetings in its history, both as to the amount and character of work done and the number in attendance. Held, as it was, within the shadow of the Lewis and Clark Exposition, which is in full blast, it was a great attraction in drawing a number of visitors, and afforded them the opportunity of seeing the wonderful country of the West and its notable achievements, which have taken place in the last decade. There is no doubt that this meeting will arouse in the West a new interest in the American Medical Association.

PRESIDENCY OF THE AMERICAN MEDICAL ASSOCIATION.

IN the election of Dr. Wm. J. Mayo to the Presidency of the American Medical Association, a great compliment has been paid to the man whom the profession at large takes great pleasure in seeing his merits recognized. Dr. Mayo must be regarded as one of America's most scientific and deserving surgeons. In reaching this, the highest compliment that the profession can pay him, we are aware that it is the result of hard and assiduous labor in the field of science, and these laurels which he has attained in the fore rank of surgeons and as the director now of the greatest medical body in this country, are the result of his meritorious work.

Recent Progress in Medical Science.

PATHOLOGY.

IN CHARGE OF

E. S. ALLEN, M. D.,

Professor of Pathology, Kentucky School of Medicine.

HYGIENE.

IN CHARGE OF

SIDNEY J. MEYERS, M. D.,

Professor of Medicine, Clinical Medicine, and Hygiene, Louisville Medical College.

The July 1st issue of *Lancet* records an epidemic of typhoid fever at Bridgend in which the medical officer of health attributes the epidemic to the blowing about of infected particles in dust.

Spirochetes in Syphilis.—July 8th issue of *Jour. A. M. A.* records Dr. McWeeney as demonstrating spirochetes in minor cases of undoubted syphilis in primary and secondary stages. In case of advanced tertiary ulceration of the palate he failed to find them, and also failed in a case of muco-purulent vaginitis, unaccompanied by ulceration and not considered to be of a syphilitic nature. The organisms found are described as follows: Sprirally-twisted, entremely delicate organisms, actively mobile, with peculiar corkscrew movement in either direction. Length from 7–18 microns, averaging about 12 microns. Thickness too small to measure. Some were equally thick throughout; others, more especially the longer ones, were decidedly thicker in the middle and tapered slowly at first, afterward more rapidly, toward the ends. The coils were often seven or eight in number, not regularly spiral, more open toward extremities, sometimes nearly effaced. The smaller spirochetes looked like detached flagella of typhoid bacillus in a Pitfield preparation. McWeeney is convinced that his findings verify those of Schoudin and Hoffmann.

Method of Determining Active Hydrochloric Acid in Stomach Contents. — Wilcox, in July 8th issue of *Jour. A. M. A.*, describes his method as follows:

Two equal volumes of the filtered gastric contents (20Cu) are taken. (*a*) One portion is diluted to about 60CC with distilled water 10CC of pure nitric acid, about 5CC of iron alum, and a measured excess (30CC) of decinormal silver nitrate solution are added. Decinormal ammonium sulpho-cyanid solution is run in from a burette until a permanent reddish-brown tint just results. The difference between the quantity of silver nitrate solution and the ammonium sulpho-cyanid solution used give the amount of total chlorid present as decinormal HCl. An evaporating dish may be conveniently used for doing the trituration. If the quantity of

gastric contents is limited, 20CC may be used for the determination of total acidity, with decinormal NaOH and phenol phthaline. This liquid is then used for the estimation for the total chlorids exactly as described above (*b*). The other portion of gastric contents is placed in a porcelain evaporating dish (four and a half inches in diameter) and evaporated to dryness on the water bath. The solid residue is heated for about an hour on the water bath. The dish is then placed in a wire gauze and heated with a small bunsen flame, the flame not coming in actual contact with the dish. The heating is continued for about ten minutes until the residue is well charred. The dish is cooled, about 60CC of water and the pure nitric acid are added, the contents being well stirred with a glass rod. The trituration is then performed exactly as described above (*a*), and the quantity of chlorids present given in terms of decinormal HCl. The difference between the chlorids found in (*a*) and (*b*) expresses with great accuracy the amount of physiologically active HCl.

The effect of igniting the dried residue of the gastric contents is to drive off the free HCl and to decompose the organic bases, which have combined with HCl, thus causing the latter to be volatilized. The loss in chlorids, therefore, represents "the active HCl." It is important that the dish be not heated over a free flame, or else inorganic chlorids may be volatilized in small amount. The presence of the black particles due to charring does not in the least interfere with the accuracy of the trituration, since the white precipitate of silver chloride and silver sulphocyanid forms an effectual contrast to this, and the appearance of a red-brown tint in the trituration can be immediately seen. It is not necessary to filter the charred particles, as this introduces errors and makes the process unnecessarily complicated.

Location of the Pelvis for Temperature and Pain in the Tract of Gowers.—The July 1, 1905, number of the *Lancet* gives a case recorded in the *Journal of Nervous and Mental Diseases*, by Prof. W. G. Spiller, giving evidence of more positive location of the center in Gowers' tract.

A man aged twenty-three, who, four months previous to consulting Dr. Spiller, had pain in the lumbar and abdominal region. Soon numbness was felt, and gradually involved legs below knees. There was extreme genu valgum, which existed for about five years. On the abdomen were scars which the patient said were due to painless burns during childhood. In the lower limbs sensation to passive movement was diminished, and sensibility to touch was normal, or nearly normal, while sensibility to pain was abolished, or almost abolished. Sensibility to temperature was almost lost below the knees, and was much impaired in thighs and lower part of trunk. There was slight kyphosis about the tenth dorsal vertebra. After a fall backward down a flight of stairs, the patient became completely paralyzed in the lower limbs. Sensibility to touch was completely lost in right lower limb for a time. Sensibility to pain and temperature was lost in right lower limb and foot and in left foot.

The knee jerks were increased and Babinski's sign was present. Later sensibility to touch was found everywhere in the lower limbs, and sensibility to pain was irregularly present, the response being very uncertain, and sensibility to temperature was much impaired. The patient died four months after the accident.

The necropsy showed tubercular meningitis and necrosis of the vertbra and a small tubercle in the right lateral column at the lower end of thoracic column, involving Gowers' tract. About an inch higher another small tubercle was found involving the left tract of Gowers. There was some myelitis, which evidently had chiefly developed after the fall, for previously the weakness in the lower limbs was slight.

Methyl Alcohol.—When one reads in current literature the deaths and the cases of blindness resulting from wood alcohol, we may well be staggered by the audacity of some firm placing upon the market a deodorized and tasteless wood spirit known as Colonial Spirits.

Being relieved of its nauseous odor and disagreeable taste, it is expected to replace grain alcohol, especially for local use. This should be decried, and the physician can do much to prevent its use by insisting on grain alcohol being bought. It is being used as an adulterant for cheap wines and brandies, and the Internal Revenue Service should awaken to the civil crime which carries permanent infirmity or death with it.

Summer Camps.—There is no doubt that a word of advice given to campers at this season would have far-reaching benefit. How often are these pleasure outings turned into sad home-comings; how often do the campers bring back typhoid fever or some other infectious disease.

These camps which dot the country everywhere are established without thought of health of campers, and certainly none think of the menace they are to those living in vicinity. The doctor often accompanies these parties, but he lays his professional duties aside and allows affairs to regulate themselves. Impress upon campers the necessity of thorough disinfection or destruction of excrement and garbage, the procuring of a good water supply, the washing of all foods eaten, and the careful regulation of the cleanliness about the tents. The mess-tent should be screened so as to be sure that contamination from the insects is eliminated.

Preservation of Urine.—By J. Bergen Ogden, M. D., *Boston Medical and Surgical*, June 22nd. Dr. Ogden, as do all of us who examine urine carefully, realizes that the specimen must be in a fresh condition in order that a satisfactory examination be made. It is often necessary to collect a twenty-four-hour specimen or to transport a specimen some distance for examination, so that twenty-four or forty-eight hours will elapse from time of voiding to examination, so that the use of a preservative is at times imperative.

It is, of course, essential (as Dr. Ogden states) that a preservative be used which will modify the composition of urine as little as possible, and

one which will not interfere with the chemical test or microscopical examination of sediment.

Dr. Ogden enumerates the following conditions: The length of time that a urine, free from preservatives, will remain for examination, will depend upon, *first*, Temperature at which it is kept; *second*, degree of concentration; *third*, the presence or absence of pathological elements, such as albumen and sugar, for urine decomposes more rapidly at 80° F. than at 60°. That a urine of low specific gravity will decompose more rapidly than one with a high specific gravity (free from sugar). When 1 per cent. or more of sugar is present in urine, ammoniacal decomposition rarely occurs. The following are conclusions from 140 experiments with various preservatives in urine of varying compositions:

Boric acid is undoubtedly the best and safest preservative that we possess—it modifies the urine least. It does not interfere with any of the ordinary tests used in analysis of the urine, and does not interfere with the microscopical examination of the sediment, and five grains of boric acid dissolved in four ounces of urine will preserve it from three days to nearly three weeks, depending, of course, on the character of the urine and temperature at which it is kept. Diabetic urine will not keep longer than three days. Boric acid tablets containing starch or sugar of milk must be avoided.

Formaldehyde.—The value of formaldehyde as a preservative is well known, but as a urinary preservative it has its limitations, particularly if not used in the proper quantity.

The chief danger is in using too much. One drop will preserve four ounces of urine. More than this will reduce Fehling sal, and also react to Heller's nitric acid test for albumin.

Urotropin.—Dr. Ogden has demonstrated that urotropin has absolutely no preserving action on the urine, and that no available formaldehyde is obtained when the tablets go into solution.

Salicylic Acid.—Salicylic acid is a very good preservative of urine, in the proportion of two grains to four ounces of urine. It has the objection that when used in larger proportions it throws down uric acid in the form of fine needle crystals, which obscure the field for examination, and there is no way to dissolve these crystals, leaving the sediment intact, so that it can be examined microscopically. Another objection is that it reduces fenic chloride in much the same manner as acetic acid.

Benzoic Acid.—Benzoid acid, in the proportion of one grain to four ounces of urine, preserves the urine fully as well as salicylic acid, but is open to the same objections.

Corrosive Sublimate.—Corrosive sublimate is a good preservative, but precipitates some of the albumin in albuminous urine, and there occurs a black deposit which adheres to the sediment.

Chloroform.—The objection to chloroform is that it is not soluble in one drop to four ounces of urine, and is apt to interfere with examination

of sediment. Another objection is that it reduces alkaline solution of copper.

Chloral.—Chloral has comparatively little preserving action of the urine, and it reduces Fehlings sal.

Camphor.—Camphor is objectionable on the same ground as chloral and chloroform.

Thymol.—Thymol is sometimes used to prevent the growth of bacteria, but its preservative action is very slight.

Dr. Ogden concludes his paper by stating:

1. That boric acid is the most practical urinary preservative that we possess, when used in the proportion of five grains to four ounces.

2. Formaldehyde solution should be used only by the physician or a responsible party. It should be remembered that one drop of the solution will preserve a pint of urine for about a week.

3. Other substances than boric acid and formaldehyde should not be used.

4. The name of preservative and the quantity that has been used should always accompany the specimen to be examined.

Diagnostic and Prognostic Significance of the Diazo-Reaction.—(*Medical Record*, July 15, 1905.) While by no means so valuable from the diagnostic standpoint as the agglutination phenomenon, the diazo-reaction described by Ehrlich is still deserving of a certain degree of recognition in this connection. Although present in the overwhelming majority of cases of typhoid fever, it is, however, not specific of or peculiar to this disease, being observed also in many cases of measles, in a considerable number of tuberculosis, and in conjunction with other affections, especially puerperal septicemia. It has further been thought to have some prognostic significance in relation particularly with tuberculosis, its presence being considered a less favorable indication than its absence. Observations with a view of corroborating or correcting these opinions have been made on a large scale by Mr. Chas. W. Budden (*British Medical Journal*, May 6, 1905), who studied the diazo-reaction in 3,000 persons, 600 in health and 2,400 suffering from various disease states. A negative response was obtained with the urine from all of the healthy persons, and in 564 cases of various acute maladies, while a positive response was obtained in 96 of 672 cases of various forms of tuberculosis, in 18 of 25 cases of measles, in 17 of 21 cases of typhoid fever, in all of 5 cases of typhus fever, in 4 of 41 cases of acute lobar pneumonia, in 1 of 16 cases of acute broncho-pneumonia, in 1 of 96 cases of acute bronchitis, and in all of four cases of puerperal septicemia. The cases of pneumonia and bronchitis were eventually found to be complicated by underlying pulmonary tuberculosis. In many cases the test was made daily, and in none was it made less frequently than twice a week. Death occurred in nearly all of the cases of tuberculosis that yielded a positive reaction, but these were precisely the cases in which

no hope of a favorable result would be entertained. In many cases yielding a positive reaction the course was rapid, but in an equal numnumber it was slow, and in some improvement even took place. The appearance and disapperrance of the reaction coincided respectively with exacerbations and remissions in the tuberculous process. The reaction was absent further in cases that had exhibited improvement in their clinical course, and it disappeared at times because the patient was growing weaker. On account of the inconstancy of the reaction, the conclusion must be accepted that it is of no value in the prognosis of chronic tuberculosis.

Intestinal Obstruction in Dogs.—About one month ago a bird dog of mine, apparently in good health, for she was fat and full of life, began to give yelps of pain, running around the yard, looking perfectly wild, and manifesting every symptom of abdominal pain. In about an hour's time I found her in a state of convulsions. I administered chloroform, which controlled convulsions for a few minutes only. I then gave her a hypodermic of morphine and atropia, which partially controlled convulsions. The dog died in about four hours, never regaining consciousness. I thought possibly she had intestinal parasites, and intended holding an autopsy, but was prevented by more urgent work demanding my time.

About one week later the mate of the dead dog stopped eating, absolutely refused all kinds of food, had fecal vomiting, emaciated rapidly, and died. I gave this dog a patent remedy for worms in dogs, gave him predigested foods by force, purged him, etc., with no result.

Two weeks after this a puppy two months old refused to eat, whined constantly for twelve hours, and then began to give those yelps that are so characteristic of a dog in pain. It was most pitiful to listen to the little puppy as he yelped all night. I gave him a dose of paregoric, which relieved him for a few hours. The following morning I gave him a dose of castor oil and later followed with a high enema of soapsuds. The puppy died in about three days. I held an autopsy and found a few small (what looked to be lumbricoids), but they were very small—1½ inches—and not in sufficient number to cause so much trouble. I also found the appendix engorged with chicken bones, and several areas of the ilium completely obstructed with bones, the portion of gut above obstruction very much distended with gas and some chyme. There were no signs of peritonitis.

Two days after the death of this puppy its mate became affected in a similar manner. I waited forty-eight hours, hoping this one would get better, until she began to have fecal vomiting and was distended. She was very much exhausted. I shaved her abdomen, exercising as much asepsis as possible, having sterilized sponge and gauze. After cocainizing the skin and muscles, I opened the abdomen between umbilicus and pubes, and found the same condition existing, viz.: Intestinal obstruc-

tion in lower portion of ilium with a distention of appendix with chicken bones.

I opened the appendix, which was longer than my thumb, and emptied it of the bones. I also opened the gut and extracted the bones, carefully closing these incisions. There were no signs of inflammation. I closed the abdomen. The dog seemed comfortable while I was manipulating in the abdominal cavity. I think I produced little or no pain going into abdomen. Sixteen hours later dog seemed much better, had stopped whining entirely, and walked out in yard, drank water, and appeared to be perfectly comfortable.

Four or five hours later she began to give evidence of pain and show signs of exhaustion. She was cold, and her heart was very rapid. I gave her a little paregoric, liquid beef preparation, and whisky. A short time after this she began to vomit, and died in a few minutes.

Each of the dogs were young and we had fed them on chicken bones frequently. I feel confident that the bones were the cause of the trouble.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, MAY 30, 1905.

Dr. Weidner: I have a specimen to present that is extremely interesting to all of us, both surgeons and medical men. It was not my case, and I only held the post-mortem. It is a case of septico-pyemia where we have traced the infection to the uterus. The case was that of a woman, forty-three years of age, who was delivered two months ago by a midwife. I do not know whether the child is living or not—I think it is. About four or five days after labor the woman developed fever. I am not familiar with the history, except that it was given me at the time. She also had repeated chills and sweats. Later on she had cough with fetid expectoration, pain in the epigastrium, and jaundice. I cannot state regarding the urinary changes, but no doubt there were changes in the urine. The woman lived about seven weeks after confinement. The diagnosis is a matter of interest, and was stated to hinge between ulcerative endocarditis and abscess of the liver. Those are the points given to me.

The abdominal cavity showed nothing special. There was no fluid in the cavity. The liver was exceptionally large, weighing six and one-fourth pounds, reaching up to the third rib. Outside of the size of the

liver, it showed nothing except extreme congestion, no abscess being found. The heart and lungs being examined next, the lungs showed a marked pleurisy on both sides—more on the left than on the right. Some abscesses were found in the lungs, some gangrenous and very beautifully circumscribed by an inflammatory area around them. One of the abscesses had been diagnosed by the physicians in attendance.

The heart was, in diastate, flabby and rather large. It was pale in color. The valves being normal except some thickening of the mitral valves; the tricuspid valve admitted four fingers easily. At the apex of the right ventricle the endocardium was roughened and showed some yellowish granulations that look something like tubercles. I also found here a distinct thrombotic condition. These granulations showed very plainly and showed an ulcerative endocarditis. This explains the pulmonary symptoms very beautifully. The pulmonary symptoms started from the heart. The left ventricle showed nothing of interest. The spleen was about ten times its normal size. It was soft. The kidneys showed apparently parenchymatous degeneration; at the same time the capsule was adherent and would tear away the kidney substance when it was removed.

The next organ examined was the uterus. These are the uterus and ovaries as you see. The uterus as you see here is about the size that we would expect to find it two months after labor. It showed some fatty swelling in the endometrium particularly at the lower portion of the body at the junction of the body with the cervix. At the junction of the cervix with the corpus there was a defect about three quarters of an inch in length with ulcerative walls. The tubes and ovaries are normal. From this hurried report I came to the conclusion that we had here in the uterus the primary focus. The woman was attended by a midwife; otherwise it was a natural labor and after that she developed these septic symptoms.

As to the mode of infection, from what I have seen in this case, this woman had a laceration of the cervix and the infectious material entered through this laceration into the blood and the endocarditis and the pulmonary abscesses resulted. There was an apparent deficiency of the tricuspid valves and a very large right ventricle—I could easily put in my four fingers—possibly explaining to some extent the large liver, the large spleen and the nephritis. My view is that here in the uterus we have the primary focus and this infection spread through the venous system through the heart and through the lungs with the result that I have demonstrated to you.

The lungs showed consolidation of the right lung with one large abscess in the left lung and several smaller ones. Cultures were made, one being taken from the heart and another from the lungs. Here is the growth from the heart and it shows a rapid growth of the staphylococcus

in pure culture. The culture from the lung gives a mixed culture, which we might expect.

One important point is the method of infection; it was simply an infection through the blood vessels. There were no adhesions around the uterus and no peritonitis. We find that the disease originated in the other organs, the heart and lungs secondarily by metastasis.

DR. W. H. WATHEN: This case, as Dr. Weidner has said, is of interest to every practitioner and every surgeon, because it invades the fields of both. It is a peculiar case in that we find a uterus apparently normal in size and general appearance, considering the time after delivery. Involution has been nearly completed at the proper time, showing that the endometrium and the parenchymatous structures of the uterus and the periuterine structures have suffered from no form of inflammation, there being no infection except at one local point, which seems to be an ulceration. We questioned Dr. Weidner as to whether there had been any injury to the vagina or perineum, but, in view of the fact that this is simply a blood distribution, we would infer that probably the infection was distributed from the point that Dr. Weidner has suggested, just below the junction of the cervix with the body.

The infections that I have found occurring from injuries to the perineum have been lymphatic and not blood infections. The remarkable thing further is that we could have had so much infection to different parts of the system through the blood channels without having had, so far as we can see, some infection of the veins themselves. The distribution in this case must have been through the veins, the infection naturally going first to the liver and to the lungs through the heart, but may have gone directly into the liver by the hemorrhoidal plexus, mesenteric and portal veins.

The heart was infected by the infecting material coming in contact with its surface, and the infected material passed from the heart into the lungs, and the lungs became involved. This patient did not die of infection of the heart, but died from the abscess formed in the lungs—that is what killed the patient.

Now, the interesting point here is, how can we explain from the pathological standpoint why we have in one instance a lymphatic infection, where the germs pass out into the broad ligaments and localize themselves there, causing abscess, or pass further into other parts of the body, and in other instances pass out through the veins with the lymphatics apparently exempted? The staphylococcus, if I understand correctly, is capable of lymphatic infection, but may not this have been a streptococcus or mixed infection. We find these infections arising in the uterus following pregnancy. There is a diversity of these conditions. One is apparently localized in the uterus; another extends down in one or both limbs; again, the lymphatic infection is carried into the broad ligaments; again, it is carried through the blood vessels to the

liver, lungs, or spleen; again, the infection goes from the endometrium out through the tubes, causing salpingitis and peritonitis.

I must say that this case, considering the condition of the womb, is the most remarkable that I have seen, and I regret that no record was kept of the temperature, rapidity of the pulse, the effects upon the lochia, secretions, and disorders of the intestinal tract.

DR. MARSHALL: I enjoyed the report very much, and I would like to mention one point especially, and that is the dissemination of this trouble from the heart and lungs. I could not follow Dr. Weidner very well. The reason I asked this is because I reported the case of a man who had his foot crushed and refused to have it amputated. He did remarkably well for a week, although there was considerable septic trouble with the foot. At the end of a week he was transferred from the hospital to his home, and in about thirty-six hours he was dead. When I saw him, within twenty-four hours before he was moved home, he was apparently in good condition—temperature normal, pulse good, no respiratory trouble, but twenty-four hours later he had great difficulty in breathing, had to be propped up in bed, and died two hours later. The idea was infection of the lung, the infection going from the foot to the lung.

DR. COOMES: I was much interested in Dr. Weidner's report, and it seems that there was some doubt as to how the liver became infected. I do not see why there should be any doubt about that, because, when the blood is infected and passes through the lungs, it goes all over the body. I think if the doctor had followed the large veins he would have found them involved.

DR. SATTERWHITE: I only want to suggest that these abscesses might have been the result of embolism.

DR. J. R. WATHEN: I listened with much interest to Dr. Weidner's report, and I know of no one more competent in this line of work. It is interesting from several standpoints. In the first place, as to the character of the infection. It has been the experience of the majority of men engaged in studies of this kind, as Williams, Orth, Klebs, and others, that an infection of this type is usually streptococcic, and when a mixed infection occurs it is with the colon bacillus, as a general rule.

Now, there are several channels along which the infection may be carried. This was probably a pyemia, and the abscesses in the lung were metastatic abscesses. In the vast majority of cases with infection by the staphylococcus enlargement of the glands follows with breaking down of these glands. Now, with the streptococcic infection it usually infects along two lines, the lymphatic system, as in the peritoneum, causing a peritonitis with no pus formation, and also infecting through the blood channels with the typical condition Dr. Weidner has presented here.

The unique condition here is that it is a staphyloccic infection through the blood channel, rather what we would expect in a case of streptococcic infection.

DR. FLEXNER: I have recently had occasion to look up this subject, and I read an interesting article by ————, of Philadelphia, with reference to metastatic abscesses following pregnancy. He reported a case with death following eleven or twelve weeks after labor. Autopsy showed a uterus much like this, with a small abscess in the cavity of the uterus, which formed a focus of infection, and the symptoms were very similar, and there was also an endocarditis. Given, as Dr. Weidner reports, a local necrosis and an entry for infecting micro-organism into the blood vessels, the pyemia is perfectly clear.

I want to say further that the history of this case is the history of an infection by the staphylococcus, and not a streptococcic infection. It is rare for a streptococcic infection to last seven weeks; it kills much quicker.

DR. WEIDNER: I am sorry that I reported the case, because I have not completed it. I considered it an unusual case, and I reported it as such. I will say that the temperature ran high at first, and later it was at 100 and 101; pulse up to 130 and 135.

The case is very clear, in my mind. I do not see how it could be accounted for in any other way than as a hematogenous infection. The infection spreads sometimes through the blood and sometimes through the lymph vessels. I agree that the latter is more common in streptococcic infection, but either one may occur and may occur through the blood. My idea was that the injury went almost through the muscular coats and entered some of the large veins, and infection resulted. Of course, then the infection takes place through the veins and the heart and then the lungs and other organs. The liver showed no abscesses. The spleen showed no abscesses, but was very much enlarged.

I have given this the name of septico-pyemia. I limited the term septic to the condition where we have germs in the blood. Here we have a septicemia and a pyemia.

This culture has been taken from the heart and shows the staphylococcus. The lung, of course, may show a different organism, because we have septic organisms added to it from outside.

DR. COOMES: I recently saw a child from Indiana, eleven months of age, that had had a sore throat, supposed to have been an ordinary tonsillitis. The child was a healthy-looking child, but it did not get well right. The throat continued to be sore. The tonsils became swollen, and it went from bad to worse, until five days ago it had difficulty in breathing.

The child was brought to my office Sunday about noon; it was cyanosed and almost dying, and I found what proved to be a retro-pharyngeal

abscess. The doctors at home had disagreed in the diagnosis, and I told the doctor that brought the patient to me that we had better have a general surgeon to see the case, as the child might die. I sent for Dr. Samuel, and he looked at it, and it was apparently an abscess, and that afternoon about 2 o'clock we went to the college building and introduced a hypodermic and withdrew some pus, and with a knife guarded opened the abscess, and there was a big flow of pus, but it did not relieve the child. The soft tissues were so swollen that the opening closed. We let the child rest for a while and tried again, but could not get any pus. Finally Dr. Samuel ruptured that sac or another one, and the pus came out, and the child was relieved and went to sleep in two or three minutes, while sitting up.

The point I want to make is this: Dr. Allen examined the pus and found it full of streptococcus cells, showing that the organism had gone in through the mucus membrane and that the accumulation of pus was due to this peculiar infection and not to diseased bone, as is sometimes the case.

BOOK REVIEWS.

The Pharmacopœia of the United States of America. — Eighth Decennial Revision. By authority of the United States Pharmacopœial Convention, held at Washington, A. D. 1900. Revised by the Committee of Revision and published by the Board of Trustees. Philadelphia: P. Blakiston's Son & Co.

This, the latest revised edition of the United States Pharmacopœia, will be officially in effect after September 1, 1905. The Committee of Revision have called especial attention to the changes in strength of tincture of aconite, tincture of veratrum, and tincture of prophanthus, which are as follows:

The strength of tincture of aconite has been reduced from 35 per cent. to 10 per cent., and that of tincture of veratrum from 40 per cent. to 10 per cent. The strength of tincture of strophanthus has been increased from 5 per cent. to 10 per cent.

These changes have been made in order to conform to the standards adopted by the International Conference on Potent Remedies, held at Brussels, in September, 1902, the object being to make uniform the strength of potent remedies in all parts of the world.

The work will be found of great value in its present revised condition. It can be commended as a whole. The publishers have done their part in the excellent workmanship.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition.—By Prof. Dr. Carl Von Noorden. Authorized American Edition. Translated. Part VI.— Drink restriction (thirst cures), by Prof. Von Noorden and Dr. Hugo Solomon. New York: E. B. Treat & Company, 1905; 8mo., 86 pages. Price, 75 cents.

To deprive one of sufficient water is cruel, but to restrict the amount in certain cases often results in improving the patient. Prof. Von Noorden has certainly given the profession a monograph well worth studying. He tells the advantage as well as the harmful results and advises against any careless restriction of liquids. The writer has applied his advice in two cases with happy results. J. J. M.

Cunningham's Anatomy.—Messrs. William Wood & Company are pleased to announce a forthcoming new edition of Cunningham's Text-Book of Anatomy. During the two years of the book's existence it has sprung into universal favor and is now the standard text-book in the majority of the prominent medical schools of this country.

Cunningham's Anatomy is the most recent text-book on the subject and, from opinions given by the leading teachers in America, is undoubtedly the best work now in the field. That this fact is realized is shown by the strenuous efforts which are being put forth by publishers of competing books, not only in revising their text-books, but in the revision, striving, so far as possible, to imitate the arrangement and style of Cunningham.

Cunningham is unique in that it is a text-book of anatomy *written by anatomists*. The illustrations are new and original, having been drawn and engraved especially for the book. Their execution is beautiful, and, being genuine hand-engravings upon wood, they possess the artistic charms and graphic quality that no mechanical process can give. Many of them are in colors, in some cases five or six printings having been employed.

In the second edition a large number of colored illustrations have been added and new drawings showing the insertions of the muscles.

The section on the nervous system has been practically redone and many new figures have been prepared for it.

The entire work evidences careful revision, amplification, and the correction of many typographical and other errors which crept into the first edition.

An index of seventy-three double-column pages makes the vast contents of the book readily accessible.

There is good reason to believe that within a very short time the sale of this book will exceed the combined sale of all other text-books on anatomy.

Religion and Lust; or, The Psychical Correlation of Religious Emotion and Sexual Desire.—By James Weir, Jr., M. D., author of the Dawn of Reason, Animal Intelligence, etc. Chicago Medical Book Co., 1905.

In the third edition of this very instructive and entertaining work, the author has incorporated in it a considerable amount of additional evidence in support of his theory. He has also eliminated certain psychical problems embraced in first and second editions, and has added instead a bibliography which is of great value as matter of reference. Certain

data has been added which strengthens the deductions and conclusions therein enunciated.

The correlation between religious emotion and sexual desire is traced from the most remote and uncivilized tribes, where it took its origin naturally, to the present day, and on a natural basis explaining many of our neuroses as degenerations of the atavistic type.

Dr. Weir's book is instructive and his conclusions well drawn, proving his assertions from historic data, a great many of which are taken from the Bible. E. S. ALLEN.

Handbook of Anatomy.—Being a complete compend of anatomy, including the anatomy of the viscera and numerous tables. By James K. Young, M. D., Professor of Orthopedic Surgery, Philadelphia Polyclinic; Clinical Professor of Orthopedic Surgery, Woman's Medical College of Pennsylvania; Instructor in Orthopedic Surgery, University of Pennsylvania; Fellow of the College of Physicians of Philadeldhia; Fellow of the Philadelphia Academy of Surgery; Fellow of the American Orthopedic Association; Member of the American Medical Association, etc., etc.

In the Handbook of Anatomy, Dr. Young has furnished the profession with a concise, though complete, synopsis of human anatomy. Appreciating, from a personal contact with students, the limited time at their disposal and the unlimited amount of medical material to be digested, the author has, by well-selected wood-cuts, typographical arrangement, and numerous tables, facilitated the acquisition of a subject as difficult as it is essential.

This valuable little book, though prepared particularly for students, sufficient descriptive matter has been added to render it valuable to the busy practitioner. Special attention has been given to the brain and nervous system. The sections on the Viscera, Special Senses, Vascular System, and Surgical Anatomy should be of especial interest to the practitioner.

This handbook is thoroughly complete and accurate and readily accessible for reference or study. It contains 171 engravings, some in colors. Crown octavo, 404 pages, extra flexible cloth, $1.50 net. F. H. Davis Co., Publishers, 1914–16 Cherry Street, Philadelphia. E. S. ALLEN.

The Influence of Growth on Congenital and Acquired Deformities.—By Adoniram Brown Judson, A. M., M. D., Orthopedic Surgeon to the Out-Patient Department, New York Hospital, 1878–1903; formerly President of the American Orthopedic Association. 12mo.; 276 pages. Profusely illustrated. New York: Wm. Wood & Co., 1905.

The author of the above volume is so well known as an orthopedic surgeon that any expressions of his upon this subject will naturally receive much consideration at the hands of the profession. In the present volume, among the many subjects presented, he especially presents one in a new light; that is, in the treatment of club-foot. A new factor is introduced in the application of the body weight for the reduction of club-feet, together with the equine position of the foot, to increase the length of a shortened limb. The use of symmetrical movements and correct rhythm for removing deformities and excluding lameness is con-

sidered; also an explanation of the manner in which misleading tumors are produced by the rotation of lateral curvature. The book as a whole is a most excellent one, and can be studied by the orthopedic surgeon with much profit. It is written in a clear style, and the details of mechanical treatment are made plain by numerous illustrations. F. W. SAMUEL.

The Surgery of the Heart and Lungs.—By Benjamin M. Ricketts, Ph. D., M. D. A history and resume of surgical conditions found therein and experimental and clinical research in man and lower animals, with reference to pneumonotomy, pneumonectomy, etc. The Grafton Press, New York.

This large volume of 500 pages, illustrated quite freely with microphotographs and photographs of laboratory specimens, will be found of special value to those who are doing experimental work upon the heart and lung. Probably the most valuable chapter to be found in the entire work is that on "Practical Hints and Theoretical Considerations," and are results of experiments by the author on dogs. Fifty of these are fully tabulated and described in an appendix. The book will be found of great value to the surgeon and can be cordially recommended, especially to those doing research work. The very full bibliography attached to each chapter will be found invaluable. Another interesting feature of the book is the tables on terminologies. It is our belief that the many good features of this work will obtain for it a wide circulation and will be welcomed by the profession. F. W. SAMUEL.

Manual of Psychiatry.—By J. Rogues DeFursac, M. D., formerly Chief of Clinic at the Medical Faculty of Paris. Translated by A. J. Rosanoff, M. D., Assistant Physician L. I. State Hospital, New York. Edited by Joseph Collins, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School. Fifth edition. John Wiley & Sons, New York.

This is a well-translated, clear, and practical manual of psychiatry. The first part is devoted to general psychiatry. The author imparts to the reader a clear understanding and appreciation of the individual symptoms. The second part is devoted to the description of the different forms of insanity. He accepts the classification of Kroepelin's as the most practical.

The work is commendable to author, translator, and editor, and recmended to both student and practitioner. J. J. M.

Practical Problems of Diet and Nutrition.—By Max Einhorn, M. D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the German Hospital, New York. Wm. Wood & Co., 1905.

This booklet of sixty-four pages is a collection of several articles prepared for different medical meetings. It contains much of interest and is practical. The general practitioner will find this little book of material help in solving the problems of diet. JOHN J. MOREN.

The Ophthalmic Year Book, 1904.—By Edward Jackson, A. M., M. D., Emeritus Professor Diseases of the Eye, Philadelphia Polyclinic; President of the American Academy of Ophthalmology and Oto-Laryngology; Ophthalmoscopist to the Denver County Hospital and Mercy Hospital, Denver, etc. With 260 pages and 45 illustrations. Published by the Herrick Book and Stationery Co., Denver, Col.

This book is a digest of the literature of ophthalmology, with index of publications for the year 1903. The choice of the year on ophthalmology. The cuts are excellent and many of them entirely new and of special interest; for instance, those illustrating the new operations for cataract.

As the busy oculist needs a reliable annual summary, the book fulfills this need most beautifully. Both author and publisher have done themselves credit in the production of this book, which has splendid paper, print, and binding.

W. J. LEACH.

BOOKS RECEIVED.

The Universal Method of Clinical Writing by Means of Clinography.— By Prof. V. Pensuti, Chief Physician in the Hospitals of Rome; ex-Chief Assistant of Medical Clinic; Professor of Medical Pathology in the University of Rome. Reprinted from the Journal of the American Medical Association, May 20, 1905. Press of the American Medical Association, 103 Dearborn Avenue, Chicago.

Personal Views on the Management of Typhoid Fever.—By Edw. C. Register, M. D., Charlotte, N. C.; President of the North Carolina Medical Society; President of the Councillors of the Medical Society of North Carolina; ex-President of the Board of Medical Examiners of North Carolina; ex-President of the Charlotte Medical Society; Editor of the *Charlotte Medical Journal*. Reprint from the *Charlotte Medical Journal*, June, 1905.

Mouth-Breathing.—By W. H. Fitzgerald, M. D., Laryngologist to St. Francis Hospital, Hartfort, Conn.; Member Hartford Medical Society, Boston City Hospital Alumni Association; Associate Fellow New York Academy of Medicine, etc. Published by the author.

Respiratory Affections; Symptoms and Their Treatment.—By Justin Herold, A. M., M. D., New York. Reprint from the *American Therapist*, May, 1904.

A System for the Surgical Correction of Harelip and Cleft Palate. — Geo. V. I. Brown, A. B., D. D. S., M. D., C. M., Milwaukee, Wis. Reprinted from the Journal of the American Medical Association, March 18, 1905. Press of American Medical Association, 103 Dearborn Avenue, Chicago.

How the General Practitioner Should Treat Gonorrhea. — By Ferd. C. Valentine, M. D., and Terry M. Townsend, M. D., New York City. Reprinted from the Journal of the American Medical Association, October 29, 1904. Press of American Medical Association, 103 Dearborn Avenue, Chicago.

Some Forensic Problems Concerning Venereal Diseases.—By Ferd. C. Valentine, M. D., and Terry M. Townsend, M. D., New York City. Reprinted from Albany Law Journal of April, 1905. The Argus Co., Albany.

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

SOME REMARKS ON THE TREATMENT OF CANCER.*

BY J. SHELTON HORSLEY, M. D.,

RICHMOND, VA.

Professor of Principles of Surgesy in the Medical College of Virginia; Surgeon to Memorial Hospital.

IN accepting the kind invitation to read a paper before the Southwest Virginia Medical Society, it has given me no little concern to select a subject that might be interesting and practical, both to the general practitioner as a medical man and to those who are particularly interested in surgery. The domains of medicine and surgery often meet on common ground, but in no instance can so much be gained by close association between practitioners of medicine and surgery as by their cooperation in the treatment of malignant growths, particularly those known under the general term of cancer, for here an early diagnosis is absolutely essential to successful treatment.

It is true that, so far as the origin of cancer is concerned, we have but little more knowledge now than was in the possession of our forefathers. Still it cannot be said that no progress has been made in the study of cancer. No one can explain why a grain of corn sprouts and grows, and, in fact, all vital phenomena are surrounded by a cloud of impenetrable mystery. Though no one can explain the origin of life, a person who studies the habitat, the method of growth, and the conditions favorable to life of the grain of corn is certainly more fitted to cultivate this cereal successfully than one who is ignorant of such things, even though both are equally ignorant of the original cause of growth. So in cancer, one who studies the tumor as a whole, and the cells as units

* Read before the Southwest Virginia Medical Society, at Pulaski, July 5, 1905.

composing it, and notes the rapidity of growth, the various kinds of cancer, and the relative malignancy of some as compared with the almost benign course of others, is certainly much better fitted to deal with these neoplasms intelligently than is an individual who ignores such sources of knowledge.

As is well known, cancer is supposed to be a tumor made of epithelial cells. The classification of the various forms is by no means a satisfactory one, for the term "epithelioma" can, strictly speaking, be applied to any form of cancer. For the purpose of these remarks, we may divide cancers generally into skin cancers, meaning those derived from the epithelium of the skin or adjacent mucous membrane, and another class including adenoid and alveola cancers, being forms that are derived from either columnar or secreting epithelium and whose origin is not originally connected with the skin.

Taking the skin cancers, which are commonly called "epitheliomas," we find they differ very greatly in malignancy. Some forms that are often about the upper portion of the face seem to remain the same for years, and are so slightly malignant that their progress may not be perceptible. It must be remembered, however, that not infrequently these forms take on vigorous growth, though the majority of them do not give serious trouble. They sometimes appear as an open sore, or ulcer, and sometimes as a wartlike process. The more benign forms are usually small ulcers with a hard margin and a shallow, indolent surface. This is the form that can be easily cured by paste. The ease with which these are cured is almost unfortunate, as it permits many sufferers to become the victims of unscrupulous charlatans. These patients, after being advised of the nature of the growth by some intelligent physician, and after exclaiming in no uncertain terms upon the horrors of the knife, at once repair to the advertising quack, who puts on a paste and often cures the patient. The patient at once becomes a walking advertisement for his saviour, and a monument of everlasting damnation to the physician who first told him of his trouble and advised him to have it removed with a knife. Sometimes, however, the paste does not cure, but merely incites a sleeping growth to greater activity. Some of the most difficult cases of cancer that I have ever had to operate upon were those that originated as small, almost harmless skin cancers that could have easily been cured by a slight operation under cocaine, but, having been treated by the advertising quack with paste, the growth took on greater activity and became very extensive. One patient that I recall had a small ulcer about the size of a pea near the outer corner of the eye. The paste was applied to this, and after recurrence set in another paste was applied. The eye being eventually involved, the patient finally consulted me. It was necessary to excise the whole eyeball with the adjacent portion of the temporal molar regions in order to effect a cure. I do not mean to be dogmatic in these matters, and I think that a surgeon

who sticks to one method as being the only one practicable in all cases must necessarily sooner or later come to grief in some of these cases.

I have sometimes used the paste called "Marsdens Paste" in growths of the character above alluded to. This consists of one part of arsenious acid and two parts of gum arabic. These are rubbed together and kept in a dry state. When about to be applied, a sufficient amount of the powder is mixed with a watery 10 per cent. solution of cocaine until it attains the consistency of cottage cheese. This is applied to the cancer and left on from three to eight hours. It is then taken off and the raw surface washed with some weak antiseptic solution. At first but little change can be seen, but in two or three days evidence of a slough formation will appear, which in ten days or two weeks will come off, leaving a comparatively healthy raw surface. I do not wish to recommend the routine use of such a paste, though in mild cases of skin cancer on the upper part of the face the employment of this is justifiable. This character of growth is very much more easily cured by the use of the X-ray, and the scar left by such treatment is less conspicuous than that left by the paste. While mild cases of the upper part of the face may be subjected to the treatment by paste, or, better still, by the X-ray, that form which occurs on the mucous membrane or at the junction of the mucous membrane with the skin should never be submitted to any other treatment than excision by the knife. To cure cancer we try to get rid of all cancer cells, and in all forms the safest and surest method is the intelligent use of the knife, as compared with the unsatisfactory and dirty process which frequently follows the separating of the slough as a result of the paste.

We know this much about the nature of cancer, that whatever may be its cause, whether it comes from a parasite or from an embryonal cell, it is always capable in the late stages of producing a similar form of cancer elsewhere in the body. This formation of metastases is characteristic of malignant growths, and means that the infective matter from the cancer lodges in a healthy portion of the patient's body and thrives, reproducing a tumor similar to that from which the infective matter originally came. This fact, which is so well known, is too frequently ignored in the practical treatment of cancer.

Cancer extends in two ways. First, by continuity and contiguity of tissue, in which case the line of travel of cancer is infiltrated by the cancer cells, and, secondly, by the blood or lymph. In this latter instance, the infective cells are transported along the lymphatics or blood vessels, more frequently the former, until they strike a place of lodgment. The lymphatics or the blood vessels which transport these cells may, however, be unaffected. In this way we may operate upon a cancer of the face and at the same time remove glands which have become involved beneath the jaw without necessarily making a continuous incision from the growth to the glands, as the lymphatics which have

transported the cells have merely served as common carriers. When the cancerous process has extended by continuity or contiguity of tissue, the cancer cells are found at all intermediate points between the most recent outgrowth and the original tumor. The practical application of this point is that whenever a cancer is removed, the tissue involved should not be cut through if it is possible to avoid it, but removed in a mass, for, if the infected tissue is cut through, some of these cells are most liable to be spilled into the wound, and the surgeon will in this way implant cancer cells into the tissue that was previously healthy and reproduce the cancer as surely as if the infection had been carried by the lymphatics. In operating upon cancers of the breast, for instance, if it is the intention of the surgeon to remove the pectoral muscles and the contents of the axilla, it must be because he believes these tissues to be infected with cancer. If the pectoral muscles are infected, it is probably by contiguity of tissue; so if the breast is first cut off and then the pectoral muscles, the surgeon has cut through the cancerous tissue, even though it may be imperceptible to the naked eye, and has almost surely spilled some cancer cells in the wound that he himself has made. However, if the muscles and the mammary gland are taken out in one mass along with the axillary contents, there can be no chance of such autoinfection. In removing cancers at any other portion of the body, this principle should always be borne in mind and applied whenever it is possible.

It is not in the scope of this paper to more than mention the internal forms of cancer. Unquestionably the prognosis of cancer of the stomach is rendered much better by early operation than it has ever been before. The early operation cannot be undertaken unless such cases are sent to the surgeon when they are merely suspected, for when a tumor has formed and the diagnosis is plain, it is usually too late for radical operative procedures. When cancers are located in such positions that the adjoining tissue can be extensively excised, even though they have progressed to an advanced stage, operation may be undertaken with some prospect of cure. Very few cancers of the breast may be considered inoperable, because of the anatomical possibility of removing all adjacent tissues. The most hopeless form for surgical treatment appears to be carcinoma of the cervix uteri. Although extensive operations have been planned and performed, I do not know of any large series of cases in which the eventual result of such procedures has been even approximately satisfactory. Such growths are of considerable malignancy, and it seems useless to make wide dissections of the lymphatics and the broad ligaments when the rectum and bladder, which actually impinge upon the growths, are left intact. As a matter of fact, the recurrence after such operations is, as a rule, not along the track of the lymphatics, but in the scar and vault or posterior wall of the vagina, immediately adjoining the area that has been operated upon. An operation that has

a mortality of more than 20 per cent., with about 10 or 15 per cent. of cures, is of very doubtful advantage, so far as the total number of days of life saved to the sufferers, when compared with such simple palliative procedures as the curette and actual cautery followed by the ordinary antiseptics.

In closing, I wish to emphasize the great importance of the closer study of the appearance, development, and progress of various forms of cancer, both in the gross state and with the microscope, and the intelligent application of knowledge so gained to surgical procedures for the cure of cancer.

ACONITINE IN FEVERS OF CHILDHOOD.

BY J. R. LANDERS, M. D.,
BERNADOTTE, ILLS.

I BELIEVE aconitine to be the antipyretic *par excellence* in fevers of childhood, be the name of the disease what it may. And, too, I am ready to say that it is the safest of antipyretics, especially when administered according to the rational method of Burggraeve. For we must know, first, that no man knows what is the dose of any medicine for any individual in any case, to produce such and such an action and no more and no less. Consequently the Burggraevean method is to give a small dose, which we know never has proven too much, or even enough, and repeat frequently till effect.

Dr. John M. Shaller has laid down a rule for the administration of the alkaloids to children, which, I believe, was called his aconitine rule, but it is a good rule for using many of the more active alkaloids.

The manufacturers of active principles have made granules and tablets that each contain the minimum adult dose, so that among those who utilize these active principles they have become standard; not because "they said so," but because experience has demonstrated that it is so. Dr. Shaller's rule for the administration of the alkaloids to children is to put in one standard granule or tablet for each year of the child's age and one more, and dissolve in twenty-four teaspoonfuls of water. One teaspoonful of the solution is the dose, to be given as often as required, till effect. I almost always give aconitine to children according to this rule, and when so given it is *the* antipyretic in all fevers of childhood, from a bad cold to scarlatina.

During the past winter I have used it, escpecially in bronchitis, pneumonia, measles, and scarlatina. I have just gotten through with a few cases of scarlatina, in which I gave aconitine as an antipyretic. One case presented symptoms of considerable gravity. The throat was involved so as to seriously embarass respiration, but by pushing aconitine there was very marked improvement in twenty-four hours. All the

cases of scarlatina seemed to respond promptly to aconitine and run a milder course. However, I have not had sufficient experience with this remedy in scarlatina to feel capable of speaking confidently.

I have just had a typical case of measles to treat in a boy eight years old. I was called at 6 P. M.; measles was just beginning to appear on temples, face, and neck, and he had a temperature of 105° F. As he was eight years old, of course, according to Shaller's rule, I put 18 gr. 1-134 tablets of amorphous aconitine in 48 teaspoonfuls of water, and ordered a teaspoonful to be given every one-half hour till the fever went down to 100° F., or till he was sweating freely.

Next morning at 10 o'clock his temperature was 100°. The medicine had been given every one-half hour, from 6 P. M. to 10 A. M., or for sixteen hours. The nurse said he had just begun to sweat about two hours before. The boy expressed himself as feeling well, and the eruption was gradually covering the body as it usually does. I continued the aconite every two hours, with directions to give as at first if the fever came up. I gave "Infant Anodyne" for cough, and, of course, had already given calomel and flushed the bowels with saline laxative. This anodyne granule contains nickel bromide gr. 1-134, codeine sulphate gr. 1-67, ipecacuanha gr. 1-134, lithium carbonate gr. 1-25, and oil of anise gr. 1-134.

I now gave quinine arsenate and nuclein. But I did not start out to tell of that part of it. Anyway, very little aconitine was given in the next twenty-four hours, and when I saw him next morning at 10 o'clock he was thoroughly covered with eruption. He expressed himself as feeling all right, and the temperature was 99° F.

Next morning I was notified not to visit the patient, as he was up and had dressed himself and said he was feeling all right. So I gave no further treatment and saw him no more till I met him on the street, but was informed he had no more trouble whatever. Even the cough stopped on the third day. This boy was practically well on the third day; and I find this is about the course a case of measles generally runs when treated as outlined and given aconitine for its antipyretic effect and till effect.

Now, I want to give another experience that is fresh in my mind. A little girl two years of age was taken suddenly at about dark with chill and pain in the base of the left lung. I was called and found the child moaning with pain, and a temperature of 105° F. I diagnosed an incipient pneumonia; gave something to relieve the pain, and left a solution of aconitine made according to Shaller's rule, ordering a dose every one-fourth hour for six doses, then every one-half hour till fever was lessened. It was ten hours before the fever was reduced.

When I saw her next the temperature was 100°. I gave treatment for cough, etc., and left a thermometer. About the same time that evening, as before, the pain began again, and the father telephoned me

that temperature was 105 again. I ordered him to give the child three 1-134 gr. tablets aconitine, one gr. 1-67 digitalin, and one gr. 1-134 strychnine arsenate, all at one dose, which he did, and telephoned me two hours later that the temperature was 103 . In two hours more the thermometer registered 100 .

I did not satisfactorily diagnose this case, and the next afternoon I had a consultation. My consultant was a well-informed, liberal-minded man, and he concluded that it was a marked pneumonia, in all probability. Anyway, he said, "You have done so well to control it so far that I have no change to offer, although," said he, "I do not use the alkaloids, as I see no reason why they should be even better than tinctures, etc.; so go ahead." But, behold! before we got out of the house, it being then about dark, the patient began to complain and fever to rise. I ordered aconitine again according to Shaller's rule, and left. In about two hours the father telephoned that temperature was 105 again, so I ordered three 1-134 gr. tablets aconitine, one gr. 1-67 digitalin, and one gr. 1-134 strychnine arsenate, all at one dose, again, and in three hours the temperature was 99.6 F. Next morning when I saw the patient she appeared practically well, and was really so in a few days. Fever never went high any more.

Of course, I would not have given three granules, gr. 1-134 each, of aconitine, if I had not found out first by small doses that it took that much to affect that fever; then, of course, rather than be ten hours reducing it, I did it with one full dose in three hours. But I had to learn the dose first, and I could do so no other way except by small doses repeated frequently till I got the effect I desired.

And while I can't say positively what the trouble was, yet there was high temperature that should certainly be relieved; and so the case bears out my contention that aconitine is *the* antipyretic in fevers of childhood, be the disease what it may. In this case we certainly had congestion somewhere, and that called for aconitine; and we had the fever, and that called for aconitine. So I tried to meet the indications, and the child was saved, even if we could not make a positive diagnosis.

What other remedy would have done such good service? If there is any one who has not tried aconitine thus, let him do so. There is no danger, if used as Shaller says. I assure you it has served me better in fevers of childhood than all other remedies, and so with me it ranks first.

CONSULTATION WITH REGULAR PHYSICIANS.

BY DR. WILLIAM ST. JOHN,
BRISTOL, TENN.

Gentlemen of the Southwest Virginia Medical Society:

THE Vigilant Committee selected for me the subject of "Consultation with Regular Phisicians." I regret, and no doubt you will, that this subject was not selected for some other member of this organization better suited to enlighten and broaden our knowledge upon this important subject. I have nothing new. It is the "same old story in the same old way." Just why consultation has never reached the plane it should; just why there is so much disagreeing and unpleasantness; just why it is so often fraught with dissatisfaction, dissension, turmoil, and renewed promises, it is hard to tell. Our meetings and discussions and agreement remind me of the oft-told story of the fox, dog, and hen. The fox looked up in a tree and saw a hen and asked her to come down. She said she was afraid. The fox said, "You need not be afraid, for the animals have all entered into an agreement that they won't hurt each other." Just then a dog came up, and the fox started off. The hen said, "What are you running for? You told me the animals had entered into an agreement not to hurt one another." "I did," said the fox, "but that —— — — —— won't keep his agreement." This, I fear, is the trouble with the doctor in the consultation business.

When I first began the practice of medicine it was rare indeed to have or to hear of a consultation. The doctor in charge of a patient put forth every effort to prevent this much-dreaded performance, for well he knew the result, but when the pressure got too strong, friends and neighbors bragging on Dr. So-and-so, finally the attending doctor had to give in, and the consulting physician called. The chief guy spent the greater part of his time shaking hands with friends, neighbors, and relatives gathered on the front porch. Often you could hear the remark that he was sorry the patient had been allowed to get into this condition. Finally the two physicians examine the patient and retire for a short talk. Sometimes the conversation would be about the convenience of a new pair of saddle-bags that one of the physicians had bought as compared with Dr. So-and-so's, or else the conversation would be about the new horse that one of the doctors had recently swapped for. However, sometimes the conversation would be about the patient. The first question the consultant would ask was what are you giving? Then the attending physician would begin to enumerate the various remedies tried. Finally the consultant doctor would say, "Well, I regard as the *sine qua non* in these cases the 'Hydrargyri-Cum Creta,' and I recommend that you give him some." Very rarely was there disagreement in treatment. The attending physician wanted protection and endorsement. The consulting physician wanted glory and boodle. Nothing was said about

what was the matter with the patient or the probable outcome of the case. One of the party might remark that he didn't like the pulse or the breathing. Then the next step would be to satisfy the family and the friends. The consulting physician would say that he had made some suggestions that he thought valuable. All eyes and attention was turned to the consulting physician. The poor little attending physician, who had been fighting skulls and cross-bones with calomel and rhubarb, salts, blisters, and mustard-plasters, was left out in the cold. He wasn't really in it. You could hear one of the neighbors ask one of the relatives on the porch, "How is Mr. Jones?" "Well, he is mighty poorly, but we have called in Dr. Brown, and he has changed the medicine, and we have some hopes now." And if Jones happens to get well, Brown gets all the credit. If Jones dies, the attending doctor gets all the blame, because he didn't call Brown soon enough.

I once had a consultation with an old doctor (and, with all their faults, I love them still) in a case of erysipelas in a boy. The family were much alarmed. The erysipelas had subsided, and the boy was doing very well. The father of the boy, with two drinks ahead, said they had to have another doctor. He wasn't satisfied. He furnished the dough, and I got the doctor. I said to this doctor, "This boy had facial erysipelas. He is very near well. I have been using a local treatment, and internally the boy is getting ten drops of tincture of iron three hours apart." This the doctor said he would advise increasing to eleven. The doctor got ten dollars, and the boy got well.

I had another consultation with an old doctor who had seen much sickness and distress, who had really been on the firing line of disease and death for forty years. I made several radical suggestions as to treatment, but the old doctor remarked that they were all very good, but his experience had taught him that the best thing for a poor man was salts and a mustard-plaster; for they had that in the house.

On another occasion, where I had been treating a case alone in the month of July, the case was not progressing well. The family said if I had no objections they would like to have Dr. Hurdleburger called in. I agreed, and the Doctor arrived, and without waiting for any history from me of the case or any plan of treatment I had given the patient, he simply said, "Pat, flop out your tongue." He said, "The whole trouble with you, Pat, is that your bowels are full of blackberry-seeds. Take this powder," and with that he dusted some "loose" calomel from his pocket on Pat's tongue and, he said, "you will be all right in the morning." Pat's wife, standing by the side of the bed, exclaimed, "Good God! who would have thought it."

The consultation has ever been the *bete noire* of the doctor's life and a willopus-wallopus to the laity. Consultation ought to be a high-class performance. They should be more frequent, for in a "multitude of counsellors there is safety." The attending physician should anticipate

the wishes of the family and should suggest consultation and let the family make the selection. Consultation should be held in a very dignified way. The interest and welfare of the patient should be the thing considered and reasoned about. No self-glory or emoluments; no little drop of the magical power should be tolerated. What the consulting physician has to say should be said to the attending physician, and the consulting physician should not, unless by permission and request of the attending physician, say anything to the family, relatives, or neighbors in reference to the case. The treatment should not be changed unless absolutely for good reason.

A consulting physician ought in a serious case see the case oftener than once, for it is impossible in the majority of desperately ill patients for a consultant to be of much value unless he has an opportunity to observe the case. The visits should either be made with or without the attending physician, but always with the knowledge of the attending physician. The family and friends ought to know why you ask for a consulting physician. That it is to bear responsibility and give an opinion as to the probable outcome of the case. The laity should be taught as much as possible the natural course of disease and the peculiar effects of disease in different constitutions, and that the knowledge of the disease and the peculiarities is more important than some wonderful remedy. It is along these lines that I find the greatest trouble and difficulty. The ignorance of the so-called well-educated, prominent people and leading citizens in regard to medicine and disease is simply astounding. The consulting physician should not only not talk with the relatives, friends, and neighbors of the patient, but he should not discuss with physicians who are not in the case the condition of the patient.

It is bad taste in a physician manipulating and talking around in order to get called in consultation, and rarely any good ever comes of such a course. Where the family have no choice in selecting a consulting physician and leaves it with the physician in charge, he should select one he thinks best suited to the case, instead of pleasing himself. Far too often it happens that physicians are given to reciprocity and commercialism.

The consulting physician has every advantage of the attending physician, owing to the manner in which he is called and the difference of his fee. It often leads the laity to believe that had they called him in in the beginning the patient would not have been so ill, and it would have saved suffering and money, and for that reason the next sickness in their family they call this consulting physician to take charge of the case. I have always believed it wrong for a physician to take advantage in this way and believe it his duty to refuse under circumstances like I have mentioned to take charge of the case when the family physician is available, unless for good reasons and by understanding with the family physician. It is unfair and one cause of the unpleasantness growing

out of consultation. It used to be thought when calling a consulting physician, that the attending physician had reached the end of his row and was ready to give up the case, and it often happened, whether he was ready or not, the other fellow got the case.

The attending and consulting physician should refrain from the use of technical terms in discussing the condition of the patient before the members of the family. The high-sounding phrases hurt our profession. Simple words are far more preferable. If it becomes necessary to tell the family something of the nature of the illness, tell it so they will understand it. How utterly ridiculous for a pompous doctor to say to a heart-broken mother, "Your son has a case of gastro-hepatitis," or to say to a little nervous, worn-out, anxious husband, "Your wife has pyosalpingitis." This does not bring confidence, but often confusion and distrust. I once heard a doctor remark to the mother of an injured boy, "Your son is mortally wounded and is now in a moribund condition," and she says, "Doc, has inflammation sot in yet?"

I hope the day will come when the little envies, bickerings, and jealousies will be no more; when doctors will rise above self-glory, imaginary greatness of peculiar power, and conceit, and learn that there is no real success without genuine merit, heart, soul, and fellow-feeling. Reputation builded other than this is like the snowflake on the water. But I fear that before this day arrives that it will be like Holmes' immortal poem on the "Melenimum;" that we will have to wait until lawyers give what they take and doctors take what they give.

After all is said, give me the inborn qualities of a gentlemen, and I want no more.

The high-class doctor can be high without being haughty, but the inferior doctor can be haughty, if not high.

The model doctor is modest in his words and profuse in his deeds.

The gentlemanly doctor is exacting of himself, and a common doctor is exacting of others.

The noble-minded doctor will be agreeable, even disagreeing. The small-minded doctor will agree and be disagreeable.

PUERPERAL INFECTION.*

BY EDWARD SPEIDEL, M. D.,

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THE distinct classification of this infection into cases of sapræmia or septicemia, as made in most text-books, is not found to apply to the condition as met with in general practice. Furthermore, scientific investigations have proven that in septic infection a number of micro-

* Read before the Louisville Medical and Surgical Society, June 13, 1905.

organisms may be found in the discharge, and that even the true streptococcus infection different forms of streptococci may be found. Again, it is known that in sapræmia there is generally associated more or less septic infection, or the presence of the necrotic material in the uterus offers such a favorable nidus for septic infection that the slightest disturbance of such a condition will engraft a septicæmia upon a sapræmia.

Much had been expected of the microscope as an aid to an accurate diagnosis of this condition, the presence of leucocytosis upon microscopical examination of the blood being an evidence of septic infection. It must be remembered, however, that if the infection is temporarily localized that the leucocytosis will not be evident in a blood examination.

The discovery of streptococci by the microscope in the culture from the lochial discharge taken from the uterus with a Doederlein tube cannot be considered to be absolute evidence of a septicæmia, for these micro-organisms have been found in the lochial discharge of patients who presented no other evidence of puerperal infection, and in very virulent infections of the blood-current an examination of the lochial discharge would be negative.

The physician in private practice is compelled, therefore, to depend mainly upon the symptom-group that has aided him to make his diagnosis heretofore. If possible, he should make use of the scientific methods suggested, bearing in mind the fact that they are not conclusive.

The amount, appearance, and odor of the lochial discharge will often aid him in deciding upon the presence or absence of sapræmia, and, in case of doubt, a resort to another aid to diagnosis may be had in the smoothness of the uterine mucosa elicited by the sterile examining finger in septicæmia and its roughness in sapræmia.

The treatment is prophylactic and curative, and the former deserves the greater consideration, for it is a well-known fact that when ordinary labor cases are conducted with the aseptic precautions of major operations that the percentage of infection is extremely low. It follows, then, that true prophylaxis in this condition calls for the use of such methods. These measures, however, should be extremely simple and of such a nature that they can be carried out in the ordinary homes.

One of our latest and best text-books on obstetrics offers the following method of preparation for the physician in an ordinary case of labor: "Thorough scrubbing of the hands in hot water for about ten minutes; soak in hot saturated sol. potass. permanganate; rinse in hot saturated solution of oxalic acid; soak the hands in 1 to 1000 bichloride for three minutes."

In a recent article in the Journal of the American Medical Association it was suggested that the vulva be shaved before every labor.

Instead of resorting to such extremes, let us adopt a technique so

simple that any physician should be considered guilty of criminal negligence who fails to follow it. The simplest means of attaining surgical cleanliness should be adopted, and an article in the February *Kentucky Medical Journal*, by Dr. Louis Frank, on "Simplicity in Surgical Methods," surely shows the advance made by the abdominal surgeon in this direction. When we remember the multiplicity of antiseptic solutions that graced the operating-room of former days and now find them discarded, and learn that even the elaborate scrubbing of the abdomen with a brush has proven to be an error and is now replaced by cleansing with gauze, we are certainly in a position to condemn an unnecessarily elaborate and impractical technique in the conduct of our labor cases.

Let the physician scrub his hands thoroughly with a brush, hot water, and soap, cleanse the nails with a nail-cleaner, again scrub his hands, and then immerse them in a chlorine solution. Stewart, of New York, who has made investigations with this solution, gives the following directions for its preparation: "Acetic acid, two teaspoonfuls; chlorinated lime, four teaspoonfuls; cold sterile water, one quart." The ingredients for this solution can be carried in the obstetrical satchel, and do not incumber the physician in the least. The chlorinated lime be carried in a glass-stoppered bottle, discarding the bichloride tablets. The acetic acid, in addition, is a very effective means in dilute solution as an intrauterine douche for post-partum hemorrhage. Besides, in adopting this means of hand disinfection we endorse the very method advocated by the distinguished Semmelweiss in his first tirade against puerperal infection in 1847. Let the physician wear a clean white apron over his clothing when he conducts a labor case. Let the patient be prepared for labor by a full bath, if possible, and a thorough cleansing of the external genitals and the adjacent regions with soap and hot water. Let the labor be conducted by the open method; that is, the legs of the patient draped with a sheet in such a way that only the vulva is exposed when an examination is made. Let the vaginal examinations be made entirely by the sense of sight and without the use of lubricants, the hand simply immersed in the antiseptic solution, and the moist fingers introduced into the vagina, after the labia have been separated by the fingers of the other hand, and the orifice of the vagina quickly mopped with a pledget of cotton wet with the antiseptic solution. Let the use of lubricants be discarded even when instruments are to be used. Many a physician will cleanse his hands very carefully and then use ordinary lard or vaseline as a lubricant on the examining finger or on his instruments, and there could be no more fertile source of infection than these substances.

The vaginal examinations should be limited as much as possible, and with the open method here advocated they become absolutely unnecessary in the second stage of labor. The placenta should, of course, be examined with care, and in its expulsion from the uterus none of the

membranes should be left behind. Finally, a post-partum vaginal douche of sterile hot water—that is, boiling water that has been cooled down to proper temperature by cold sterile water—should be given by a trained the nurse, or, in her absence, by the physician himself, at the end of every labor.

In considering the treatment of puerperal infection itself, we should bear in mind two important facts. In the septic variety the endometrium is smooth; there is nothing to remove, and the process has already extended beyond the uterine mucosa.

In the sapræmic condition we are apt to attempt dangerous interference in a condition which, if treated expectantly, rarely ends fatally. It is a well-known fact that the entire placenta has been left in the uterus, and patients have recovered from such a condition after six and nine months, when active interference was not practiced.

The treatment of puerperal infection depends, of course, upon the degree and kind of infection, but it is undoubtedly safest in all instances to take for granted that we are dealing with a septic process, and act accordingly.

Thorough purgation to evacuate the intestinal tract is the first indication, and, in the absence of a microscopic diagnosis and also in consequence of the possibility of a malarial complication, in this locality at least, the administration of quinine for forty-eight hours is not in error. If only a slight infection is present, then, in addition to the above, hot vaginal and a single intrauterine douche of normal saline solution will relieve the condition. The use of antiseptic solutions in the puerperal uterus should be discarded. They may be followed by absorption and systemic poisoning.

In the graver forms of puerperal infection, it follows that more drastic measures must be employed. If the lochial discharge gives evidence of retained necrotic material, then it is of first importance that the uterus be properly emptied, and for this purpose surgical anesthesia and the induction of the finger into the uterus under strict asepsis should be resorted to. Under no circumstances should a sharp or dull curette be used in the infected puerperal uterus. If this point were definitely settled, it would result in the saving of many lives. The finger will detect any remains of placental tissue that have been left in the uterus, whilst every expert operator will admit that he has curetted the endometrium thoroughly and repeatedly with a sharp curette and then has found to his astonishment a large placental mass that could only be peeled off by the fingers. Aside from the fact, therefore, that the sharp curette does not even accomplish its purpose in definitely removing retained masses, it removes nature's barrier and protection against a spread of the infection — the zone of granulation tissue which is developed below the necrotic endometrium and which effectively walls off the normal from the infected area. Every one of us who practiced curettage of the septic

uterus, as was taught on every hand only a few years ago, well remembers the pelvic abscesses, the distended abdomen, with the intestinal paresis, and the final outcome of such cases. Consequently the curette should never be used in the infected uterus.

Remove foreign material as thoroughly as possible with the finger introduced into the uterus, followed by a single intrauterine douche of normal saline solution, and daily hot vaginal douches thereafter, and let that be the limit of local treatment. The further conduct of such a case should be as in typhoid fever, and instead of excessive feeding, as advocated by so many authors, use a restricted dietary, which does not complicate matters still further by a colon bacillus infection, when stagnation occurs in the intestinal tract in consequence of the partial paresis of the intestines incident to the septic process. Ergot should be given throughout the disease, and at best hypodermatically, in the early stage of the disease, to insure a firm contraction of the muscular structure of the uterus, and thus limit the spread of the infection, and in the later stage in addition as a cardiac stimulant even more effective than strychnine. In addition to those mentioned, there are two remedies that seem to be of service in this condition, and their administration is based upon sound therapeutic principles. They are nuclein solution and collargol.

It is claimed that the bactericidal power of the blood is due to the nuclein which it contains naturally, and it is but rational therefore, under circumstances when the body is so overtaxed with septic material, that the normal amount of nuclein in the blood cannot combat it, that it be enforced by the substance artificially supplied.

Nuclein solution should be administered hypodermatically into the right or left hypochondriac region in doses of two to four drachms once daily.

As to collargol, it has been introduced and highly recommended by Crede, of Dresden, who claims that the colloidal silver which it contains inhibits bacterial growth, and so directly combats septic infection. It cannot, however, affect collections of pus that are encapsulated.

Collargol should be introduced into the system per rectum. It is used in the dose of 7½ grs. dissolved in 2 oz. of water twice daily. A rectal enema of one pint of warm water is first given, and a half-hour later the collargol solution is introduced by pouring it into a small funnel in the end of an ordinary rectal tube which has been inserted into the patient's bowel for eight or ten inches, the patient lying in the left lateral position with the hips elevated so that the solution may be retained as long as possible. Precautions must be taken to catch the solution as it escapes, in the bed-pan or upon a pad, as it will stain the bedclothing very badly. The injections must be continued twice daily for fourteen days and, combined with the nuclein injections, has resulted in the recovery of a number of my patients who, I am sure, would have succumbed without a resort to these measures.

I have used the anti-streptococcic serum in a number of cases, but without results, and this seems to be the general opinion. It is a question, however, whether the unfavorable reports made in regards to its action may not be greatly due to a faulty impression as to the effect and use of the serum.

Fullerton, in the December *Lancet*, calls attention to the fact that the serum is antitoxic; that is, it has the power to neutralize the toxines produced by the streptococci, but it has no influence upon the micro-organisms themselves. If this is properly understood, then it follows that the serum injections must be repeated daily in order to combat the toxines as they are produced and until the streptococci exhaust themselves.

Furthermore, if a serum is going to be effective in a given case, then it should show results in twenty-four or thirty-six hours. If it does not, then a different make of serum must be tried, for it is known that there are different forms of streptococci, and a serum made from a pure culture of one form will not affect an infection from another. Finally, it must be remembered that it cannot influence a mixed infection.

In cases of pelvic abscess, Pryor's method of incision and packing both the uterus and the abscess cavity with iodoform gauze is a treatment that should meet with consideration when this condition presents itself. Whilst in the very extreme cases we may be tempted to use Burtenshaw's suggestion; that is, the thorough flushing of the peritoneal cavity with normal saline solution, through a short abdominal incision, which is kept open for a few days so that the process can be repeated if occasion requires, it is a question whether hysterectomy can offer any results when we consider that the cases are not generally brought to operation until the condition is extreme. It is claimed therefore that in early cases the uterus would often be removed in conditions that undoubtedly would have recovered under less radical measures, whilst in late cases the patient's condition is so serious and the infection has so implicated neighboring organs that a removal of the uterus can offer but little hope. An infection of the surrounding structures may readily occur in the course of the operation, and so nullify all the work that has been done.

DISCUSSION.

DR. GOSSETT: I enjoyed Dr. Speidel's paper very much. He covered the ground thoroughly. There were some few things that I do not endorse. I am glad to notice that his paper was given under the name of puerperal infection instead of puerperal fever. The term puerperal fever was used in 1607 and was used until a few years ago. Now it is known as puerperal infection. Puerperal fever is a wrong name, because it is an infection. The micro-organism gains entrance into the system through the genital tract. I look upon puerperal infection as

simply a wound infection. It is divisible into sapremia, septicemia, and pyemia. The first is a local condition only and is due to the retention of portions of the membranes, placenta, or blood clots; the toxines get into the system. I think these can be removed better by the curette than by the finger. We can easily get at the cause. I believe that often the infection is due to the physician or nurse giving an ante-partum douche. The physicians throughout the country do not use this as much as formerly. By using the syringe many of these cases have been caused. Neither the ante-partum nor the post-partum douche should be used in normal cases.

As to the preparation of the patient, I believe that in the beginning the patient should take a bath and thoroughly cleanse the pubes, thighs, and abdomen before the physician is called. When the physician arrives he should cleanse the pubes, thighs, and abdomen with lysol soap, green soap, or bichloride solution. Shaving the pubes would be better, but I do not believe the women would stand for it.

The young men want to examine the patient every minute or two. The first examination should be a thorough one, and after that frequent examinations should not be made.

If the temperature is below 100, no attention should be paid to it; if above 100, there is some trouble. In a case of sapremia with a bad discharge and a great deal of odor, by cleansing the uterus thoroughly we can get rid of the trouble. Patients may have a true case of septicemia and not have any discharge or any odor. In those cases where the patients run a temperature it is best to make a thorough examination with the microscope and see whether the streptococcus is present or not.

As to the use of instruments in these cases of infection, I believe that in all cases where we have some fever and a discharge there are some portions of the placenta or membranes remaining. I have never been able to remove these with the finger, and use the curette, either sharp or dull, and curette gently. I believe that we will get particles that we cannot scrape out with the fingers. If we do the curettement thoroughly and gently, not roughly, it is not necessary to break down the barrier that has been formed and get into the uterine tissue. Very often these patients run a temperature from intestinal intoxication. Then a thorough purge will relieve them. We may have this temperature from a ruptured perineum. That should be repaired at once.

DR. JAMES VANCE: I enjoyed the paper very much. I will touch only on a few points. First, about the preparations of the hands, it seems to me that every obstetrician should have a constant regard for the care of his hands; he should keep the skin intact and smooth. If the hands are kept in such condition as that, no antiseptics will be necessary in cleansing. I do not believe chlorinated lime or anything else will be needed. Simple soap and water will be all that is necessary.

This has proved ample in abdominal surgery, and I see no reason why it should not apply in obstetrics.

As to the treatment, Dr. Speidel has spoken very highly of collargol and nuclein. I have seen him get some excellent results, particularly in one case of large fibroid tumor with sepsis. Her condition was desperate.

Recently in the City Hospital we had a case of large pus tube on the right side. The was nothing in Douglas' cul-de-sac. The urine showed hyaline and granular casts, and we deemed it inadvisable to give an anesthetic, so we tried collargol. We could not get the solution promptly at the City Hospital. The collargol was given to this patient for a week, and during that time her temperature dropped considerably, her pulse improved, and the patient felt better. After that week we could not get any collargol. That has been six weeks ago. After this temporary improvement, the patient went right back and got in a desperate condition—temperature 103, pulse 120. An operation was done, and an abscess was found, not in Douglas' cul-de-sac, but it had invaded the abdominal wall. The patient never reacted after the operation, and died. I do not believe anything would have done any good.

As to the use of the serum, I have never gotten any results from it; it may have been my fault, or it might have occurred because I have never examined the case to ascertain whether there has not been more than one micro-organism present, but in 99 per cent. of cases the streptococcus and colon bacillus will be present. If the staphylococcus is the cause, I can see why the anti-streptococcic serum would not be of any use. On the other hand, the infection may be due to the colon bacillus or other organisms. The microscopical examination will show whether the streptococcus is present, and if it is I think the serum should be used. If due to the staphylococcus or the colon bacillus, I do not think it will do any good.

The question of removing the uterus for septic infection, I do not believe that if it gets to the point where it is necessary to remove the uterus that removing the uterus is going to be enough. The septic infection has spread beyond the uterus. Oftentimes draining of the cul-de-sac is all that is necessary. Of course, if there is anything in the uterus it should be cleaned out.

DR. G. A. HENDON: I was very much instructed by hearing Dr. Speidel's paper, which was a very excellent one, as we know the Doctor is in the habit of producing such papers. The subject was handled in a clear, concise, and excellent way, and we can all draw valuable lessons from it.

The question of puerperal infection I am not competent to discuss from a personal standpoint, because, strange to relate, I have never seen a case of puerperal septicemia in my own practice or anybody else's, and the only knowledge that I have is what I have obtained from the literature of the subject.

There is one point that I want to touch upon, and that is the distinction between sapremia and septicemia. Sapremia is due to an infection with a prophytic bacteria, or those that grow upon dead tissue, while septicemia is produced by those organisms that thrive on living tissue as a medium.

The idea of prevention is the dominant one, and that is the problem that presents itself to us in our daily work as being the most difficult one to deal with, and I must say that in the presence of the most unfavorable surroundings it seems that nature has established a certain degree of immunity that protects the patient. All of us have seen cases conducted in the most unhygienic surroundings without the slightest disturbance. I do not use this as an argument toward any laxity on our part, because we should all do the best we can and never presume on the preventive powers of nature. We should simply follow the lights before us.

In regard to the treatment of this condition, I believe that in septicemia the anti-streptococcic serum will produce results. I am favorably impressed with the silver salts. All who have had experience with the silver salts can testify to their usefulness. If we can get the silver salt in contact with the micro-organisms it will destroy them. The nuclein idea is an instructive one, and it is worthy of consideration.

The point raised by Dr. Vance is a basic principle in regard to prophylaxis. The time to get ready for another operation is at the expiration of the last one.

DR. J. W. KREMER: I enjoyed to paper of Dr. Speidel very much. In regard to the treatment of this condition with nuclein and collargol, I had a patient at Gray-street Infirmary that had puerperal infection, and we used anti-streptococcic serum and got bad results. The patient's temperature was 103 and pulse 179 after a twenty cubic centimer dose had been given, and we thought the patient would die. A few days after that we called Dr. Speidel in consultation, and upon his suggestion used nuclein solution. We used two injections of half an ounce each, with no results that we could note. The temperature was just the same. Then we resorted to collargol. There was none in the city at the time, and it was ordered from Cincinnati. We gave fifteen grains daily in two ounces of distilled water. That treatment was continued for fourteen days, and on the fourteenth day the temperature dropped to normal. During the time of septic infection the woman developed phlebitis and was confined to bed for four months. We gave strychnine three times a day for two months. The woman is entirely well to-day, and I believe the collargol, with the nuclein and strychnine, cured her.

DR. HIBBITT: I cannot but voice the sentiments of Dr. Vance as to the preparation of the hands. I believe that the simplest method is the use of plain water and plenty of soap and absolute alcohol used after-

ward. I believe that we can prepare the patient just as well by this method as any that can be used.

As to the use of lubricants on the fingers when examining the patient, I do not believe that is is necessary to use them at all. The parts are naturally moistened to a considerable extent, and I do not believe they are indicated.

Dr. Gossett spoke of sapremia being caused by retained particles and clots in the uterus. We can have sapremia result from other conditions. I believe that the absorption from a lacerated perineum or lacerated cervix will produce this trouble. With cleanliness the temperature will go down to normal.

Where the infection is due to the streptococcus I believe we should leave the interior of the uterus alone. If we find that after one irrigation of the uterus there is no decline in the temperature, I think we had better leave the uterus alone and support the patient, whether it be a case of septicemia or sapremia.

As regards the use of the anti-streptococcic serum, in the few cases in which I have used it I have had no beneficial results at all.

DR. GUEST: I thoroughly agree with Dr. Speidel that instruments should never be put into an infected uterus. I disagree with Dr. Gossett. I believe that we can remove clots and retained portions of the placenta better with the finger than with instruments.

DR. EDWARD SPEIDEL (*closing*): I thank the gentlemen for their kind discussion, and I shall speak only to a few points that were mentioned in the discussion. I have never advocated the ante-partum douche, because it is a well-known fact that the vaginal secretion is nature's best safeguard. The post-partum douche is indicated because conditions are different. The vaginal douche cleanses the vagina and removes any infection that may have entered and is soothing to the parts. This point is advocated by some of the best authors on obstetrics.

As regards the bath, it is indicated before labor. In primipara the tub bath may be used, but in multipara the shower bath should be preferred, because the dirty water of the tub bath may enter the vagina and be the source of infection.

In regard to the care of the hands, I would say that the general practitioner cannot keep his hands in as perfect a condition as the surgeon can. In the case of the former a cleansing solution is necessary, and I would suggest the use of Stewart's chlorine solution.

In regard to Dr. Kremer's case, I think every one who saw the patient will agree that she was practically moribund. The strychnine had been used before collargol and nuclein were used, and I think it is to the credit of these two drugs that the woman is living to-day. These preparations are endorsed by Williams, of Johns-Hopkins, and by Edgar.

PECULIAR MASTOID CASES.

BY M. F. COOMES, A. M., M. D., LL. D.,
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THIS case is reported because of the number of peculiarities which have existed in connection with it. While in Jacksonville, Fla., last March, I was called to see Mr. G., who is 38 years old, rather delicate in his statue, being six feet two inches high, and weighing 160 pounds when in full flesh. In the early part of last spring he had an attack of LaGrippe, accompanied by an acute rhinitis, with a great deal of pulmonary congestion. During the course of the LaGrippe he had developed an acute inflammation of the pharynx and the middle ear on the right side. There was a great deal of pain during the first hours, in which the ear became involved. After a few days the drum skin ruptured and there was a very profuse flow of pus from the external ear. The pain and tenderness which existed before the drum membrane ruptured continued in a more modified form. I saw him on the 6th of March. At that time there was a profuse flow of pus from the external ear, and he was expectorating a large quantity of muco-pus from the pharynx, which evidently drained down through the eustachian tube, as was afterward determined. The attending physician thought the discharge came from the nose, which was quite natural without a thorough investigation of the naso-pharynx, which he had not been able to make. The man's temperature had ranged from 99½ to 101 for eight or ten days before I saw him. There was no great amount of swelling over the mastoid, although there was a great deal of tenderness, and particularly at the tip of the mastoid. Pressure elicited considerable pain.

The pain also extended well up over the temporal bone and up to the eye on that side. There was no disturbance of the vision, nor was there any vertigo, when I first saw the man. The patient was moved from the hotel to the hospital on the morning of the 7th, and on the morning of the 8th I opened up the mastoid in the usual way, cutting the bone open down thoroughly to the tip, so as to drain the cells, and also made a free opening up into the drum cavity, and washed the wound out, causing the water to flow out readily through the opening in the drum skin. There was apparently very little necrosis about the bone, although the cells were full of pus. The bone was much softened in spots, although it could not be said to be in a state of necrosis. The wound was packed in the usual way, and the patient recovered from the chloroform

and shock of the operation with no bad symptoms. The discharge became very much less from the pharynx and from the external ear immediately after the operation, and apparently the patient was going to make a rapid recovery. On the fifth or sixth day, I have forgotten which, the patient became nauseated, and suffered much from vertigo. Especially was the vertigo severe when the head was turned from side to side. These symptoms caused me to feel uneasy as to what the outcome would be, as it seemed that inflammation was extending to the brain proper, and I insisted on anesthizing the patient and opening up the wound and making another and more thorough examination. This precedure was objected to by those interested in the man, and I had to let things take their course. The vertigo persisted, and, to make matters worse, the patient had an attack of indigestion, accompanied by vomiting and purging. Finally he recovered from his indigestion, but the flow of pus continued from the wound and the amount expectorated from the pharynx was very profuse, and there was considerable flow from the ear. Believing that it was possible that I had a case of tubercular infection to deal with, the expectorated matter was submitted to Dr. Andrade, who is the State bacteriologist of Florida, and no tubercle bacilli were found in this expectorated matter, but the discharge from the ear was not examined at that time. I returned home the 1st of April, which was twenty-two days after the operation. At that time the man was gaining strength, but the flow of pus was simply enormous, notwithstanding all the ordinary means were being used to check it. I heard no more from the patient until about the 1st of June, when his brother wrote me that his ear was still discharging large quantities of pus. I immediately ordered him to have the patient come to Louisville. He arrived in Louisville on June 12th, in a good physical condition, but still the ear was discharging pus freely. There was no odor about the pus at this time, and, in fact, there was never any odor about the discharge from the wound or from the ear. The opening in the drum membrane was closed, and the drum cavity free from any irritation. The patient was totally deaf in that ear, not being able to hear any sound.

The patient was apparently well, but not in as good flesh as I thought he ought to be, and I at once began active measures to increase the condition of the man's blood. I also made an effort to increase his bodily weight. He received a liberal supply of iron and arsenic and a good diet. He gained rapidly in flesh and improved in every way, and the discharge was very much modified, but still continued to be profuse. I had the discharge examined, more as a matter of curiosity than anything else, and found that it was full of the tubercle bacilli. For ten days after this I kept the wound saturated with the methylene blue solution, and washed it out every morning with a solution of bicarbonate of soda, then followed that with a solution of chloride of zinc, having one

drachm of the 50 per cent. solution to one pint of water. This was kept up continually while he was under my care. A subsequent examination failed to reveal the presence of the tubercle bacilli.

The course of the sinus leading from the mastoid over to the eustachian tube is an interesting thing to be considered.

There can be no doubt but what the petrous portion of the temporal bone has been seriously involved in this inflammatory process, and, in fact, was seriously involved at the time that I operated upon the man, or became so immediately afterward. The fact must not be lost sight of that while there was a free communication between the mastoid and the eustachian tube when I saw him last, and also it must be remembered that the fluid washed through the mastoid and out through the eustachian tube into the nose did not come in contact with the drum cavity in any way, so the sinus leading to the eustachian tube must be internal to the drum cavity. This man's deafness is no doubt the result of inflammatory action of the periostal covering of the petrous portion of the temporal bone about the opening where the auditory nerve enters that bone. The deafness in this case reminds me of that in a case of cerebro-spinal meningitis, where the patient recovers from the disease, but remains ever afterward totally deaf. The deafness in these cases of cerebro-spinal meningitis is also caused by the lymph deposits around the auditory nerve, where it enters the petrous portion of the temporal bone, binding that nerve down in such a manner as to destroy its functions, and thereby producing deafness, and that a similar condition existed in Mr. G.'s case I think there can be no doubt. He unquestionably had inflammatory conditions in the neighborhood of the meatus auditorius internus. When I saw Mr. G. on June 12th, and when he left Louisville on June 28th, vertigo was induced by rubbing his hand over the right side of his face and forehead. There was no mistake about this, for each time that the hand was passed over this portion of his face he would have this vertigo, showing conclusively a reflex communication between the nerves of the face and the internal ear.

Mastoid Case No. 2.—*History:* Master ———, fourteen years of age, was seized one night with severe earache, which lasted several hours, and which was relieved with hot applications and other domestic measures during the latter part of the night. There was no acute pain during this attack after the first night. The boy became deaf, and there was a general soreness about the side of the head and a slight swelling over the mastoid. No pain elicited, except from pressure at the tip of the mastoid. The boy was listless and inclined to sleep a good deal. I saw him on the twelfth day after the attack. His temperature and pulse were normal. The attending physician was anxious for an operation, and anxious to have the boy relieved. It was decided to open up the mastoid, which was done on the next morning, being the fourteenth day after the attack, when there was a free flow of pus. During the opera-

tion of making a thorough opening down to the bottom of the cells, I grasped a spicula of bone with my forceps, and, very much to my surprise, the whole tip of the mastoid became detached and was removed. The bone seemed to be very soft, but there was no odor or discoloration. The usual dressing was applied, and after the third or fourth day there was no pus in the wound, and the boy made an uninterrupted recovery. The peculiarities about this case are, first, the very short duration of pain; secondly, there was no discharge of pus through the drum membrane, as that structure did not rupture; thirdly, the peculiar soft condition of the mastoid; and, fourthly, the absence of any abnormal temperature or pulse; and, fiftyly, the rapid recovery after the operation.

WHAT CAN I EAT?*

BY JOHN J. MOREN, M. D.

THIS is an old question. My apology for such a subject is my belief that in many conditions we restrict the amount of food stuff below that which is really needed to meet the functional activity of the body. We have known many facts and rules about dietetics, but many of these facts are being replaced by entirely different ideas gained by scientific research by such men as Pawlow, of St. Petersburg; Chittenden, Cannon, etc., of this country. Probably no part of our branch of science is being studied and changed to a greater benefit than that which pertains to feeding. It is not only of interest to the specialist and general practitioner, but even to the individual himself. There is no doubt that we all commit errors in our diet, probably to our detriment, though certainly agreeable at the time and strenuously denied when the aftermath of gout, etc., manifest themselves.

It is no easy task to handle such a subject in a general way. However, I hope to interest you that more time and attention should be spent in noting the changes and value of diet.

Man requires a certain amount of proteid material to replace the destruction of cellular tissue. I need only recall to you the desquamating epithelium and disintegrating cellular tissue. And, as Leube says, I believe that the proteid should take the front rank as food.

The fats and carbohydrates furnish heat and energy, while salts and water become necessary and essential to accomplish the transformation of food into heat, energy, and cell activity.

There are fads and fancies about diet. Some thrive upon what others would starve, etc. But the fact that the best people in every respect are those who live upon a mixed diet cannot be surrounded. In health par-

* Read before the Muldraugh Hill Medical Society, August 10, 1905.

ticularly the Americans take full advantage of this fact, and their mixture is often too large.

The amount needed varies with the individual, season, work, etc. The estimated amount has been obtained by different researches and varies somewhat with the investigator. A diet furnishing 100 grms. of proteid, 50 grms. of fat and 500 grms. of carbohydrates is a liberal diet for an adult at work. An adult will consume about fifty to sixty ounces of solid food and an equal amount of liquid each day. Leube says one-fourth of the daily food should be the nitrogenous-bearing material. Recently Prof. Chittenden demonstrated that we could do much better work, feel better, and thrive upon much less food. The question of quantity and variety of food best suited for the person is an open one; each fellow doubtless forms his optnion by his tastes and peculiarties. Personally, I believe that it is not so much the quality as the quantity. As some one put it, "the unearned by muscular exertion" is what causes the trouble.

We do not live upon what we eat, but upon what we digest, and the excess over and above what is needed becomes a burden, manifested in obesity or metabolic disturbance. The best per cent. of energy obtained by fuel from a steam engine is about 30 to 35 per cent.; that obtained from the human body is estimated at 45 per cent. In abnormal conditions doubtless this could not be attained, on account of the weakened functions. However, by studying dietetics and adapting our food to the existing conditions, this weakness could be helped rather than burdened; for instance, don't load a swagging stomach with a full liquid diet.

It is essential to know the nutritive power of food material; also to know the relative digestibility. By knowing the composition you can readily explain why certain food goes wrong.

Much of our food is bulky, but contains little nourishment. A striking comparison is 1 pint of milk, which is equal to about 86 oz. of strawberries, 30 oz. oysters, 42 oz. beer, 32 oz. of potatoes. Ten oz. of lean meat is equal to 274 oz. beef tea.

Men cannot thrive upon a one-sided diet. His stomach is not built that way. To obtain sufficient nitrogen from vegetables there will be too much carbohydrates and bulky cellulose. Man has no pouch as the ox. An excess of meat diet disturbs the nitrogen balance and furnishes too little carbon-bearing material. The mixed diet is certainly the best, and Atwater demonstrated that digestion was better.

As viewed from the recently-added facts, the process of digestion is a wonderful display of reflexes, exhibiting that old and Christian rule, "help one another." The sight, taste, relish excite the gastric secretion, free acid opens the pylorus, acid in the duodenum closes the pylorus and excites the pancreatic secretion, the pancreatic neutralizing the acid, and again the pylorus opens, etc.

The former view that secretion was excited by mechanical and thermal effect of the foodstuff has changed to psychical and chemical.

Pawlow showed the psychic juice, or that excited by taste, etc., to have the greatest digestive power. Cannon demonstrated that the stomach emptied with the presence of free HCL.

These facts lead one to believe that we are advancing to a point when we can answer the question, "What can I eat?" Dietetics in diseases of the stomach is often a hard problem; if the functions are seriously disturbed by disease, it is a difficult task. However, the majority of of cases are not organic in nature, but an error in diet, living, or a disturbed function. The guide is the secretion and motor power. Except in special cases, I favor a mixed diet; a variety pleases the patient and breaks the monotony. Again, many of these cases are of long standing and have dieted very close. But, most important of all, I believe that diet has a therapeutic value. Pawlow demonstrated that the digestive power of the gastric juice varied with the food. This may explain the difficulty so many patients have in breaking away from their strict and limited diet. However, we must not lose sight of the fear of eating (sitophobia) that is so often seen in timid patients. I believe in exercising a physiologic function, and with proper care you can feed the dyspeptic.

Recently a student consulted me, suffering from a simple hyperchlohydria. His principal symptoms were flatulency, headache, and nervousness. For ten months he had lived upon a very limited diet of egg, oatmeal, rice, and bread. He lost flesh from the fact that he had not had sufficient food. This is a typical example of a class of cases that I meet. They need resistance and endurance, and can it be obtained by dieting? There was no objection to a full diet, excepting sweets.

A different problem is shown in a case of acid gastritis, with retention, in a young man of thirty-three. The retention is the question here. For breakfast he was allowed soft-cooked eggs, toast. Three hours afterward an alkali stomach wash. For lunch scraped red meat, toast, some cereal, and peas or grits. His dinner was about the same. The object was to give a diet that contained as little fat or fibrous tissue or cellulose as possible. With additional medication it was gratifying to see results.

An altogether different condition is shown in a male of sixty-five, arterio-sclerosis, nervous and digestive symptoms, constipation, splashing sound over stomach area, sour stomach. Diet principally milk and bread. Three conditions confront us: First, faulty circulation; second, retention; third, disturbed secretion. To have a good digestion we must have good circulation, and this was my main point of attack. The iodides and strychnine and diastase were my drugs with a regular diet and restricted liquids, milk being avoided. To-day (the sixth week), as he says, "My digestion is a good deal better."

Other conditions could be mentioned, but these suffice to illustrate my point that it is not so much the dieting that relieves the patient, but combatting the cause of the indigestion and suiting the diet accordingly. By this you can feed your patient, and he will regain his strength and stability instead of having his resistance lowered by strict dieting. Every one of you kick when you are hungry, so remember your patient.

It falls to my lot to contend with many chronic conditions, and when there is lack of tone, food, well cooked, neatly served, and relished, is one of the best remedies. In advocating this line of procedure, I do not mean to belittle dieting, but to halt before the economy suffers from the deficiency.

I cannot end this bundle of collections more fittingly than by repeating what is attributed to Pressdent Lincoln: Eat three square meals, say your prayers, be courteous to your creditor and steer clear of biliousness."

A PRELIMINARY NOTE ON THE PRESENCE OF PIGMENT CONTAINING IRON IN THE THYROID GLAND.*

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IN the course of a histological study of the blood diseases we have on several occasions noticed the presence of pigment giving the free iron reaction in the thyroid. Unfortunately, the thyroid had not been preserved in many instances, but we now propose (1) to describe the appearances in six cases; and (2) to give an account of the pigmentary changes in the thyroid gland of animals after blood destruction by hemolytic agents.

Methods.—The gland tissue was fixed in sublimated formalin and sections were stained with eosin and methylene blue to show the general structure. To demonstrate iron we placed sections in a mixture of potassium ferrocyanide and hydrochloric acid and afterward counter-stained them with carm-alum. In carrying out the latter method we were careful to avoid the use of metal instruments and to use glass vessels only.

1. CASE I. *Pernicious anemia with marked pigmentary changes in the organs.*—Each of a series of sections of the throid gland showed an area of about the size of a pin's head where there was a marked iron reaction. This was found to consist of a group of thyroid cells, most of

* Grants towards the expenses of this research were received from the Carnegie Trust and the Mason Fund of the laboratory.

which were packed with a yellow-colored pigment and were enlarged to about twenty times their normal size. Many of the neighboring acini showed no pigmentation, but here and there throughout the sections were large, irregularly shaped cells full of pigment lying in the fibrous tissue between the acini. All the pigment gave the free iron reaction.

CASE II. *Pernicious anemia.* — The thyroid had undergone some cystic enlargement. There were no areas showing pigmentation, but there were a few connective tissue cells between the acini and a few isolated cells lying free in the acini, which were packed with a golden-brown pigment giving the iron reaction.

CASE III. *Severe secondary anemia following gastric carcinoma.*—In this case there were small pigmented areas scattered at fairly wide intervals throughout the right and left lobes. No pigmentation was found in the isthmus. In the connective tissue between the acini were scattered groups of five or six cells, globular in shape, packed with granules of iron pigment, which in many cases obscured the nucleus. Around these groups were other cells containing only two or three small rounded masses of iron pigment. In many of these acini the epithelium lining the vesicles contained a large amount of yellow pigment, especially toward the unattached border of the cells. In the colloid material in several acini were large granular masses like large degenerated cells. Some of the granules gave the iron reaction; others remained golden brown. The colloid material in a few of the acini gave a slight diffuse iron reaction. The pigment in the epithelium of the acini was always more abundant in the case of the smaller vesicles, and in this position a smaller proportion of the pigment gave the iron reaction than in the other situations. It was noticed that the colloid material in these small vesicles stained a red color with eosin and methylene blue, while the colloid in the large vesicles not showing iron was stained blue.

CASE IV. *Medullary leucocythemia.*—In a small area there was a mass of cellular tissue consisting of ordinary thyroid cells and numerous cells of large size containing iron pigment. Almost throughout the whole gland the interacinous fibrous tissue showed large, irregularly-shaped cells full of pigment which gave a brilliant iron reaction.

CASE V. *Lymphatic leukemia.*—There were no aggregations of pigmented cells, but in epithelial cells lining the acini and in connective tissue cells in the septa throughout the gland were granules of pigment giving the iron reaction.

CASE VI. *Lymphatic leukemia.*—Iron pigment was found in groups of five or six thyroid cells, in the interacinous connective tissue, and in cells lying free in the acini between the epithelium and the colloid material and sometimes among the colloid.

As yet our collection of "check" material is not large, but we have failed to find the pigment in three cases of lymphatic leukemia and in a case of death due to injury.

2. *The thyroid in experimental hematolysis.*—In this part of the work we were able to utilize material which was obtained in the course of a research by one of us, in collaboration with Dr. D. Noel Paton, on the relationship of the spleen to hematolysis. Animals had been injected with a 1 in 50 solution of phenylhydrazin in doses corresponding to three cubic centimeters for each 2,000 grames of body weight. In animals killed a week after the injection we found a marked iron reaction in the thyroid gland. For the most part, however, this reaction was due to a deposition of pigment along the fibrils of connective tissue in the capsule and septa, in common with a similar deposition in fibrous tissue in the spleen, lymph glands, etc., as has been described by Heinz† and Noel Paton and Goodall.‡ In rabbits and cats we were unable to find any further pigmentary change. In guinea-pigs, in addition to the pigmentation along the fibrils of connective tissue there was pigment in large cells lying among the colloid material. In these cells only part of the pigment gave the iron reaction. In one case sections of the parathyroid showed diffuse iron pigmentation of the connective tissue, while the cells were free from pigment. We have examined a very large number of sections of thyroid from all the common laboratory animals in a normal condition and have failed to find pigmentation. It would therefore appear that the condition is associated with an undue vulnerability of the red blood corpuscles. We would note that, while iron-containing pigment has been found in the blood conditions and blood destructions described in other organs—as in the liver, the spleen, the kidney, the marrow, and hemolymph glands—we have been unable to find any notice of its appearance in the thyroid gland. Its occurrence there is of great theoretical and, possibly, of practical interest.

At the present stage our findings may be summarized as follows: 1. In cases of the diseases of the blood and in animals injected with phenylhydrazin we have found pigment in the thyroid gland. The greater part of this pigment gives the free iron reaction. 2. The pigment is most commonly found in connective tissue cells between the vesicles. It is also present in small scattered areas in the epithelium lining the vesicles, and may be found in cells lying free among the colloid material. 3. It is most abundant in the more cellular parts of the thyroid, where the colloid vesicles are small.

† Heinz-Ziegler's Beitrage, Band xxix, 1901, p. 311.

‡ Paton and Goodall: Journal of Physiology, vol. xxix, 1903, p. 411.

DIET AFTER ONE YEAR IN CHILDREN.

DIET FROM ONE YEAR TO EIGHTEEN MONTHS.

Breakfast (6 to 7 A. M.)—1. A glass of milk with stale bread broken in it, or one of the numerous good breakfast foods on the market. 2. Oatmeal, arrowroot, wheaten grits, farina, hominy grits, etc., made into a porridge and well cooked, and with the milk mixture in use poured over it. 3. A soft-boiled or poached egg with broken bread in it, and a glass of milk.

Second Meal (10 A. M.)—A glass of milk.

Dinner (1:30 to 2 P. M.)—1. Bread moistened with dish gravy (no fat), beef tea or beef juice; a glass of milk. 2. Rice or grits moistened in the same way; a glass of milk. 3. A soft-boiled egg and stale bread thinly buttered; a glass of milk. Rice, sago, or tapioca pudding or junket, in small quantities, as dessert with any of these diets.

Fourth Meal (5 P. M.)—A glass of milk or some bread and milk.

Fifth Meal (9 to 10 P. M.)—A glass of milk.

DIET FROM EIGHTEEN MONTHS TO TWO YEARS.

Breakfast (7 A. M.)—1. A glass of milk with a slice of bread and butter or a soda, graham, oatmeal, or similar unsweetened biscuit. 2. A soft-boiled egg with bread and butter and a glass of milk. 3. Porridge, as described in the previous list.

Second Meal (10 A. M.)—1. Bread broken in milk. 2. Bread and butter or a soda or other biscuit with a glass of milk.

Dinner (2 P. M.)—1. Boiled rice or a baked potato, mashed and moistened with dish gravy or beef juice; a glass of milk. 2. Mutton or chicken broth with barley rice in it; some bread and butter and some sago or rice pudding made with milk. 3. A small portion of minced white meat of chicken or turkey, or rare roast beef, beefsteak, lamb, mutton, or fish; bread and butter; a glass of milk.

Fourth Meal (5 P. M.)—1. Bread and milk. 2. Bread and butter and a glass of milk.

DIET FROM TWO TO THREE YEARS.

Breakfast (7 to 8 A. M.)—1. A small portion of beefsteak, with oatmeal, hominy grits, wheaten grits, cornmeal, or other cereal porridge with plenty of milk. 2. A soft-boiled egg, bread and butter and a glass of milk.

Second Meal (11 A. M.)—1. A glass of milk with bread and butter or with a soda or other biscuit. 2. Bread and milk. 3. Chicken or mutton broth.

Dinner (2 P. M.)—Roasted fowl, mutton, or beef cut fine; mashed baked potato with butter or dish gravy on it; bread and butter. As dessert, tapioca, sago, or rice pudding, junket or a small quantity of

raspberries, peaches, grapes without seeds, orange juice, or of stewed apples or prunes.

Supper (6 P. M.)—1. Bread and butter. 2. Milk with soda or similar buiscuit or with bread and butter.

Diet After Three Years.—Foods Permitted.

Meats.—Broiled beefsteak, lamb chops and chicken; broiled liver; roasted or boiled beef, mutton, lamb, chicken and turkey; broiled or boiled fish; raw or stewed oysters.

Eggs.—Soft-boiled, poached, scrambled, omelet.

Cereals.—Light and not too fresh wheaten and graham bread, toast, zwieback; plain unsweetened biscuit, as oatmeal, graham, soda, water, etc.; hominy grits, wheaten grits, cornmeal, barley, rice, oatmeal, macaroni, etc.

Soups.—Plain soup and broth of nearly any kind.

Vegetables.—White potatoes, boiled onions, spinach, peas, asparagus except the hard parts, string and other beans, salsify, lettuce, stewed celery, young beets, arrowroot, tapioca, sago, etc.

Fruits.—Nearly all if stewed and sweetened; of raw fruits, peaches are one of the best; pears, well-ripened and fresh raspberries, strawberries, blackberries, grapes without the skin and seeds, oranges.

Desserts.—Light puddings, as rice pudding without raisins, bread puddings, etc., plain custards, wine jelly, ice cream, junket.

Foods to be Taken with Caution.

Kidney, muffins, hot rolls, sweet potatoes, baked beans, squash, turnips, parsnips, carrots, egg-plant, stewed tomatoes, green corn, cherries, plums, apples, huckleberries, gooseberries, currants.

Foods to be Avoided.

Fried food of any kind; griddle cakes; pork; sausage, highly-seasoned food; pastry; all heavy, doughy or very sweet puddings; unripe, sour or wilted fruit; bananas, pineapples, cucumbers, raw celery, raw tomatoes, cabbage, cauliflower, nuts, candies, preserved fruits, jams, tea, coffee, alcoholic beverages.

It is important that milk remains the chief article of diet throughout early childhood. Broths are serviceable as food only through the cereal addition with which they are thickened. Although rashness on the part of the mother in experiments on new foods is to be condemned, too great caution resulting in too long a continuance with insufficient food is equally harmful. Children should not be fed too frequently nor should they be given too much starch, as that is a frequent cause of illness. The age and need of the child rather than the teeth should be the guide in determining when the giving of meat may be commenced. No candies, cakes or other such articles should be given. No food should be allowed between meals, although if there clearly be real hunger a

small glass of milk may be given at times, but even this is to be discouraged as a custom. During very hot weather the diet should be reduced greatly in variety and in amount. The child of two years had better be put temporarily on the diet of a child of one year. Illness may often be avoided by following this plan.

DIET AFTER THE AGE OF ONE YEAR.

Griffith advises that the infant should be weaned at from the age of ten to twelve months. When possible this should be accomplished gradually, only one bottle of food given at first, and this of a strength less than mother's milk, thus enabling the child to accustom itself to the new food. The number of bottles and the strength of the mixture are increased gradually until at the age of a year the food should consist of milk slightly diluted. The child should be weighed systematically twice a week during the weaning, in order that no undiscovered loss of weight takes place. After the child has been weaned entirely and has become accustomed to the new artificial food, it is well to add to the food a concentrated amylaceous substance such as barley jelly or arrowroot jelly. The proportion of two rounded tablespoonfuls of barley flour or arrowroot to a pint of water, cooked in a double boiler for ten or fifteen minutes, makes the proper strength. This may be added to the food in the proportion first of one and later of several teaspoonfuls to each bottle, the addition to be made while the cereal substance is still hot. The number of feedings during this period has been reduced from three hours to three and a half or four hours, depending on the requirements and habits of the child. The amount of nourishment should be from eight to ten ounces at a feeding.

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Editorial.

Elimination of the Mosquito.

One of the most valuable contributions to current medical literature appeared in the *New York Medical Journal and Philadelphia Medical Journal*, February 4, 1905, under the caption of "Insects: The Role They Play in the Transmission of Disease," by Henry Albert, of Iowa City, Ia. Such an article should be appreciated by the general public, the sanitarian, and, in fact, all interested in health and the prevention of disease. The above article, strange to say, was a timely preface to the precautions against yellow fever, although it thoroughly, or rather exhaustively, considers all insects which may carry any disease; *i. e.*, so far as we now have learned. The yellow fever epidemic in New Orleans occurred some time after the appearance of this article.

J. R. Taylor, Havana, Cuba (*Journal A. M. A.*, July 8) gives a good summary of the facts in regard to the transmission of disease by mosquitoes, so far as known. He does not consider any of the possible methods practicable for the complete extermination of malaria, but thinks that the disease can be greatly reduced in prevalence. As regards yellow fever, he believes the methods instituted by Gorgas in Cuba, if thoroughly carried out, would exterminate the disease. He believes in quarantine in all possible cases of transmission of disease by vessels; that is, a quarantine based on the natural history of the disease as we know it. The isolation of the infected person is essential. For the destruction of mosquitoes sulphur fumigation is most effectual, but has its inconveniences.

The powdered leaves of datura (Jimson weed) mixed with saltpeter and burned, an ounce of the mixture to each two hundred cubic feet of space, is a cheap, safe, and effective method of destroying hibernating mosquitoes. Pyrethrum and formaldehyde are said to be effective against hibernating insects, though the former only stupefies the mosquitoes, which should be swept up and burned after its use. To exterminate the stegomyia, or yellow fever mosquito, all water receptacles should be treated with oil or made insect-proof, and drainage and flushing of ditches, etc., should be practiced. Drainage methods are even more necessary against the malarial-bearing type, which breeds especially in swamps. Taylor reviews the general results of experiments by the New Jersey mosquito commission in regard to the merits of various larvicides, such as petroleum and the creosote preparations.

Doty, of New York, says the best way to eliminate the mosquito is to first study their habits and mode of propagation, then do all possible to eliminate their breeding and increase, and then made life miserable for those which are already living.

"The first important fact is that mosquitoes propagate only in water, and the commonest form, the culex, has a special preference for contaminated or foul waters. There is a salt-water mosquito which abounds on the Atlantic coast and breeds in the salt marshes, hibernating in the mud when they are not overflowed. The common impression that the mosquito is a short-lived insect is not altogether correct, and Doty thinks that a large proportion of the earlier mosquitoes of the season are the eggs and insects that have hibernated during the winter. They can live for many weeks during the warm weather, and have been kept for weeks in captivity. The anopheles, or malaria-bearing mosquito, differs from the culex in not preferring contaminated waters, but breeds rather in surface water with green scum. It may be found together with the culex in offensive water, but this is rare. As a rule, mosquitoes do not go far from home, though they may be carried by the winds or public conveyances. In localities where they abound their breeding place is generally at no great distance. These breeding places are sometimes in the most unexpected locations, and he gives an instance of malaria traced to an old cakepan, nearly buried in long grass, which abounded in anopheles. The prevention of the propagation of mosquitoes consists in abolishing or removing the water receptacles in which they breed, by drainage, filling, covering, and screening cisterns, and the use of petroleum oil as a temporary measure when these other measures cannot at once be carried out. The oil is cheap, practically harmless, and destroys the larvæ. Chemicals, besides being possibly dangerous, are comparatively ineffective. All mosquitoes are most active after sundown. In the daytime they live in the high grass and underbrush, and in mosquito-infected districts this should be removed. Much will probably be added to our knowledge of

these insects, but the above covers most of the important practical points at present known."—*Journal A. M. A.*, August 26th.

Dr. Albert, in closing his article, gives several means of elimination of this insect, but in reference to the mosquito writes the following:

"*Destruction of Mosquitoes.*—It is rather hard to destroy large numbers of the adult forms except by fumigation, but since the larval forms are more accessible, it is to them that the axe is placed. This may be done by:

"1. Removal of their breeding places by draining swamps and other small bodies of standing water, and by preventing the accumulation of water in cans, pails, barrels, etc.

"2. Lakes, watering troughs, etc., may be stocked with different varieties of fish, which will swallow the larvæ before they develop into adult forms.

"3. The surface of water which cannot be drained may be covered by a film of coal oil, petroleum, or kerosene, about one ounce to every fifteen square feet. This kills the adult female when she attempts to deposit her eggs, it prevents the development of eggs, and kills the larval forms, since it is impossible for them to breathe. This oil does not injure the fish below.

"If it is impossible to destroy all the mosquitoes, we may further protect ourselves by:

"4. Screening doors and windows, and thus preventing the entrance of mosquitoes into houses, especially those containing patients with malaria, yellow fever, or filariasis.

"5. Pyrethrum (Persian powder) may be blown about the room or burned. This has no effect on the human being, but stupefies the insects so that they may be collected and destroyed.

"6. To keep mosquitoes from the body a number of substances, such as the essential oil of lavender, pennyroyal, peppermint, eucalyptus, camphor, etc., have been advised, but they are all volatile and exert their good influence for but a short time. Howard mentions the use of the following formula: Castor oil, one ounce; alcohol, one ounce, and oil of lavender, one drachm. The use of an ointment of petrolatum which has been impregnated with peppermint and eucalyptus is also useful and convenient. As an application for mosquito bites, Howard mentions the use of alcohol, ammonia, or glycerin, singly or combined."

Data on Anatomic Eponymes. There are 295 names to whom Dr. Gregg ascribes eponymes in the *Medical Fortnightly*. The German tongue has 141, the French 57, English 47, Italian 28, American 13, Russian 5, Portuguese 1, Greek 1, Spanish 1, Swedish 1.

The dead Americans with an anatomic eponyme are Horner, Dalton, Godman, Skene, Gunn, Bigelow. The living Americans are Clevenger, Tyson, Burkholder, Wilder, Kelly, Byron Robinson, and Broedel.

Dr. Gregg, in the *Medical Fortnightly*, honors Byron Robinson with the following anatomic eponymes:

"Robinson, Byron, American, Gynecologist. Licensed in medicine in 1882. Living. Professor in Chicago. Abdominal brain of Byron Robinson (ganglion coeliacum). Synonymous with that of Wrisberg. Circle of Byron Robinson (utero-ovarian artery, with part of aorta, common iliac and internal iliac). Oligemic uterine zones of Byron Robinson (central longitudinal axis of the uterus, center of fundus and lateral borders of cervix). Cervical loop of Byron Robinson (a loop of uterine artery lying adjacent to the cervix.) Triangles of Byron Robinson (uretero-venous, triangles composed of the ureter, renal and ovarian and [spermatic] vein.) Automatic menstrual ganglia of Byron Robinson (located in the walls of the uterus and oviducts). Pelvic brain of Byron Robinson (cervico-uterine ganglion). Synonymous with that of Lee and Frankhauser."

NOTES.

DR. T. D. CROTHERS, of Hartford, Conn., Superintendent Walnut Lodge Hospital, has accepted an invitation to deliver the first oration in the Norman Kerr Memorial Lectureship, at London, Eng., October 10, 1905. Dr. Kerr will be remembered as an eminent London physician who made a special study of inebriety, alcoholism, and other drug disorders. He wrote several excellent books on this subject, and was instrumental in securing the enactment of laws for the control of inebriates and the promotion of hospitals for their care throughout Great Britain. He founded the British Society for the Study of Inebriety in 1884, and this Society and his friends have organized a memorial lectureship for yearly orations on his life and work. It is a very pleasant recognition of the progress of medical science in this country that an American physician should be invited to deliver the first lecture.—*From the British Journal of Inebriety.*

DR. HARRY C. WOODARD wishes to announce that hereafter his office hours will be held at 307 West Jefferson Street, between Third and Fourth. Cumberland telephone, number Main 1508 y. Hours: 10 A. M. to 12:30 P. M.; 2 to 4 and 7 to 8 P. M.; Sundays, 10 to 11 A. M. Residence removed to 320 East Broadway. Telephone, Cumberland South 1261 a.

THE *Medico-Pharmaceutical Journal*, of New York City, has removed its office of publication to 45 West One Hundred and Twenty-eighth Street.

THE Seventeenth Annual Meeting of the Tri-State Medical Society of Alabama, Georgia, and Tennessee will be held in Chattanooga Tuesday, Wednesday, and Thursday, September 26, 27, and 28, 1905.

A rate of one fare for the round trip has been secured on account of the fall meeting of the Chattanooga Fair Association. This organization will have a horse show and other attractions, September 26th to 30th.

Membership to this Association is open to all members of the profession in good standing, and a most cordial invitation is extend to all such medical men.

A programme of unusual merit is already assured, and those who have not yet sent the subject of their papers should do so at once to the Secretary, Dr. Raymond Wallace, Chattanooga, Tenn.

THE Academy of Medicine of Louisville presents the following quarterly programme:

September 6, 1905.—*Essay*—Hyperchlohydria, by Dr. Chas. G. Lucas. Discussion led by Drs. B. F. Zimmerman and J. Rowan Morrison.

October 4, 1905.—*Essay*—Nephritis, by Dr. Hugh R. Manning. Discussion led by Drs. Ellis Duncan and Oscar E. Bloch.

November 1, 1905. — *Essay* — Gastroptosis, by Dr. John J. Moren. Discussion led by Drs. Ben C. Frazier and Jas. B. Bullitt.

JOHN J. MOREN, *Secretary.*

The following is the quarterly programme of the Louisville Medical and Surgical Society for September, October, and November, 1905. Meetings at Galt House, third Monday of each month, at 8 P. M.:

September Meeting.—*Essay*—Jequirity in the Treatment of Trachoma, by Dr. P. Richard Taylor. Discussion to be led by Drs. A. O. Pfingst and John K. Morris.

October Meeting.—*Essay*—Report of Some Abdominal Cases and Deductions Therefrom, by Dr. James Vance. Discussion to be led by Drs. Irvin Abell and John R. Wathen.

November Meeting.—*Essay*—Treatment of Enlarged Prostate, by Dr. John R. Wathen. Discussion to be led by Drs. Irvin Abell and Harry Weber.

JOHN K. MORRIS, M. D., *Secretary.*

DR. F. W. BLACKFORD has removed his office from the Pope Building to The Masonic Temple, Fourth Avenue and Chestnut Streets, Rooms 417 and 418.

Recent Progress in Medical Science.

GENITO-URINARY AND SKIN.

IN CHARGE OF

HENRY H. KOEHLER, M. D.,

Professor of Genito-Urinary and Skin Diseases, Medical Department, Kentucky University.

GENERAL SURGERY.

IN CHARGE OF

W. O. ROBERTS, M. D.,

Professor of Surgery and Clinical Surgery, University of Louisville.

AND

A. D. WILMOTH, M. D.,

Professor Surgery and Clinical Surgery, Medical Department, Kentucky University.

GENITO-URINARY AND SKIN.

The experiments of Neisser, in Java, on a large number of monkeys of various kinds have proven to the satisfaction of that eminent authority the transmissibility of syphilis to the lower animals. The results were verified by control inoculations and reinoculations. We thus have now at our disposal material for animal experimentation in this pathologically obscure disease, and much definite knowledge may be expected. The same results have been achieved in Paris by the investigations of Metchnikoff.

In addition to this, claims with a substantial basis are now made for a new organism as the specific cause of syphilis. The discoverer, Schaudinn, of the Institute for Marine and Tropical Diseases at Hamburg, is very modest in his claim, unlike the blatant assertions of several would-be authorities. The organism belongs to the fungus group of spirochæta, its full title being Spirochæta Pallida—Schaudinn.

Other investigators have followed Schaudinn's directions and have verified his results, notably Herxheimer and Huebner, at Frankfurt, A. M. The fungus is corkscrew-shaped, showing many turns, is sparingly present, and, owing to its delicate construction, is difficult to find. It is stained best in a mixture of azur and eosin in glycerine and methyl alcohol. The conjoint discovery of the inocubility of certain monkeys and this apparently specific cause of syphilis is most fortunate, as exact experimentation is now possible, and it seems positive results are assured. It is fair to assume that the riddle of the etiology of syphilis is about to be solved.

In the treatment of urethral stricture the tendendency is toward surgical conservatism. Internal urethrotomies are being done more and

more frequently, reliance being placed on dilation up to full sizes—this is imperative. To obliterate the infiltrating material constituting the stricture mass, dilation must be carried up to about 30 French. The unsatisfactory results we find following dilatations in the hands of some men can nearly always be traced to the fact that they contented themselves with bringing the urethral constriction up, say 22 to 24 French and no further.

When an internal cut is made it is the custom with most surgeons to follow this with a perineal opening for drainage.

The most conspicuous surgery in the male is now that of the prostate, and, owing to the labors of Hugh Young, Parker Syms, Fuller, Freyer, and others, we may expect before long a crystallization of the knowledge gained into certain rules for operating, placing this branch of surgery upon a firm and rational basis. As yet there is much contention regarding the choice of route. The suprapubic operation has many able adherents, and, accepting their statistics, the operation must be considered a reasonably safe one. There is a leaning, however, with the majority of operators toward the perineal opening, and in this operation opinion is divided as to technique. The semi-lunar or Y-shaped incision used by the French surgeons and adopted by Young seems to be unnecessary. It inflicts a great wound upon the perineum, destroying its integrity, perhaps. The incision made by Parker Syms is a straight one, as for an ordinary external urethrotomy. The prostate is shelled out extra urethral, and the danger of a rectal tear much diminished. Good results have been achieved by a still simpler method—shelling out the prostate through an intra-urethral opening, made after opening the perineum by a straight incision. Various types of growth will, however, unquestionable demand different methods of approach, and, in addition to the perfecting technique, thorough investigation of size, position, whether high or low, degree of infection, and age of patients will be demanded.

The treatment of gonorrhea remains much the same. The search for a cure is proving to be a chase after the rainbow, the efforts of the surgeon being directed more and more by the thought that he can only assist and help. Permanganate irrigations are being condemned in some quarters very unjustly, as they still hold a most satisfactory place in the treatment of this disease. Early deep irrigations into the bladder are not to be advised. Methylene blue has a psychic effect, but as a gonococcide it must be viewed as a failure. There are on the market several organic silver preparations whose usefulness is incontestable.

The field of usefulness of treatment by the X-rays has markedly diminished. Of undoubted value in many cutaneous conditions of most dissimilar natures, it has been shorn of its pretensions to cure carcinomata proper and sarcomata.

With the X-rays, Sabouraud, of Paris, has achieved most brilliant

results in the treatment of that most dreaded condition of the scalp, ringworm infection in children. It is generally conceded that treatment by antiseptics and strong irritants is most unsatisfactory, and Sabouraud's results will certainly be hailed with delight.

In the issue of July 6th of the *Deutsche Medieinische Wochenschrift*, Dr. Lassar, of Berlin, gives a resume of the treatment of eczema which, considering the author's enormous experience and the terse, commonsense method of presenting the subject, makes the article a most valuable one. Dr. Lassar does not assume that eczema is due to one specific cause, but that many irritating influences may precipitate that peculiar type of cutaneous inflammation which we find evidenced as sometimes vesicular, again pustular (when secondarily infected), again squamous, when chronicity of the affection has permitted the heaping up of dead epithelial masses.

These irritating factors may be chemical, mechanical, or thermal, and sometimes bactericidal. Lassar contends, and with him most unbiassed observers will agree, that an exclusive bactericidal cause of eczema is not to be considered.

He does not champion the common belief that bathing and washing is necessarily injurious to an eczematous skin. It is, when properly done, often beneficial. His therapy is simple, and, as has been said often, the results are to be expected from a judicious choice of well-known and effective remedies and a proper timing of their use, depending upon the acuteness or chronicity of symptoms rather than from the use of so-called specifics.

Untiring efforts in experimentation has led to several gratifying advances in the treatment of skin affections.

The treatment by freezing with ethylchloride or liquid carbonic acid has been very successful in lupus erythematosis. The Dreuw-Juliusberg method of treating this obstinate disease consists in thoroughly freezing the affected area and then rubbing in hydrochloric acid. The method is practically painless. Thiosinamin is gaining in favor. This peculiar substance, when injected into the circulation or applied in the form of a plaster, has the power of selecting scar tissue and causing its softening and even disappearance. Its use is obviously indicated in most diverse conditions, such as scars from burns, keloids, cicatricial contractions, and strictures.

Of recent meritorious preparations we may mention anthrasol (Knoll), a substitute for tar, thigenol in place of ichthyol, lenigallol in place of the poisonous pyrogallol. Protargol, originally intended only as a gonorrheal remedy, has found great favor in the form of a 1-10 per cent. ointment as an application for infected wounds or ulcerative conditions.

A most recommendable preparation is anesthesin—Ritsert. This preparation has most marked pain-relieving properties when locally ap-

plied, is not poisonous, can be given in grain doses for ulcer of the stomach, burns of the œsophagus, in oily suspension 10 per cent. makes an ideal prostatic and urethral injection when there is much pain. In dermatitis venenata, zoster, and itching, and in burns and scalds, its use has become with many almost indispensable.

SURGERY.

Scopolomine—Morphine Anesthesia.—Dr. Emil Ries, of Chicago, reports in the August *Annals of Surgery* seventy-two cases of scopolomine—morphine anesthesia.

Scopolomine is an alkaloid extracted from the root of scopolomina carmolica. It is closely related to hyoscine.

Kochmann states that small doses increase the blood pressure. Large doses decrease.

Second—That the pulse is not changed by small doses, but large doses, by intaling the vogus, the pulse become less frequent and its elevations become greater.

Third—Respiration is not damaged by therapeuticalle doses.

Fourth—The secretions of saliva, perspiration, and mucus are stopped by scopolomine.

Fifth—Applied locally it is a mydriatic.

Sixth—It is excreted through the kidneys.

Seventh—The fatal dose is unknown.

Scopolomine used with morphine counteracts the evil effects of each other.

Dr. Reis says that the greatest difficulty has been found in determining the best proportion of the two drugs. Too much morphine endangers the heart. Too much scopolomine creates excitement similar to that following atropine poisoning. The patient becomes restless; it is difficult to keep them quiet. They talk as if in a delirium. The pupils are widely dilated and rigid, and the face is flushed. The patient demands water constantly and complains of dryness. But the excitement soon wears off, and neither in man nor in dogs have any cases become known where scopolomine alone has produced death. Fifteen times the dose for man has been given to dogs, and the health of the dog remained unaffected.

As to dosage and proportion, Korff's rule is followed. He published his experience with 200 cases. He gives 1-10 milligramme scopolomine and 25 milligrammes of morphine. This amount is divided in three doses, which is injected two and one-half, one and one-half, and one-half hour before the operation. Scopolomine morphine is used for two purposes. *First*—With the intention to perform the whole operation under this anesthesia alone. *Second*—As a preliminary to anesthesia by inhalation of chloroform or ether. In case of complete success, the patient becomes sleepy after the first injection, is fast asleep after the second, and unconscious and insensible to pain after the third.

The operation may then begin one-half hour after last injection, and can proceed for hours without any other anesthetic. The patients lie on the table with eyes closed or open and do not react in any way. The pulse is often solid and up to 120, sometimes very slow, down to 40. Respiration is quiet, and there is none of that disagreeable and dangerous accumulation of mucus in the mouth. The pupil is rigid, either dilated or contracted. The muscles are relaxed, the blood which escapes during the operation is of a watered color. After the operation is finished the patient is returned to bed still unconscious and continues to sleep for five or six hours. There is no retching or vomiting, and when the patient wakes up food can be given immediately. The patient remembers nothing of the operation, goes to sleep in his bed, and wakes up usually unconscious of the fact that he has been operated on.

This is the ideal course of scopolomine morphine anesthesia, but this ideal course partakes of the nature of all ideals in that it is frequently unattainable.

If hysterectomies, appendictomies, prosliteclomies, and the like can be done without pain with all past operation symptoms absent, scopolomine morphine is indeed a product of science that threatens to revolutionize and advance surgery as did chloroform and ether a few years ago.

GENERAL SURGERY.

Reduction of Strangulated Hernia.—Fisher has found that by applying an ether spray to hernias that have been obstructed, or so-called strangulated hernia, they may be reduced without difficulty or danger. The patient is placed on the back with the pelvis raised and the knees flexed. The skin is smeared with vaseline and covered with cotton surrounding the rupture. The spray of ether is then directed over the rupture and inguinal canal; in some two or three minutes this condenses the tissues, blood vessels, and the gas in the distended bowel. Taxis is then made, usually with success; if it fails, fifteen or twenty minutes is allowed to elapse and the ether spray is repeated.

Modern Medicine for July.—The Mayos, in *Modern Medicine* for July, in an article which proves beyond a doubt in their minds, and should in all those who think the subject over well, as they have such vast experience, that human and bovine tuberculosis are one and the same, notwithstanding the statement made by Koch; and they further state that a very large percentage of the tubercular conditions of the peritoneum, etc., are brought about by the ingesta of milk from tubercular animals. This statement coming from the source it does—from men of such vast experience, who have drawn their conclusion from actual experience in the operating-room, which carry with it more than average weight—in fact, should be taken as a matter of fact.

Actinomycosis.—*St. Louis Courier of Medicine*, July. By E. A. Bab-

ler, M. D. In this article Babler calls attention to the frequency of actinomycosis in man and impresses the fact of its being so easily transmitted from the lower animals to the farmer, who is brought in such close contact with animals that are so commonly affected. The condition in cattle is the one that is familiarly known as lumpy-jaw. He calls attention to the fact that Bollinger has demonstrated years ago, that the so-called osteosarcoma described by Leblanc is due to the ray fungus, and that the condition found in man and animals is one and the same. He states that cattle are usually infected by eating diseased grain, while man is infected, in at least 65 per cent of the cases, by coming in contact with infected cereals. Any factor that causes abrasion of the skin or mucous membrane prepares the way for infection. The chewing of straw or grain or grass is an example of an easy way of infection to man.

In man no tissue is exempt from infection. Babler states that Von Bergmann has seen 100 cases, 45 of which were in the jaw, and 35 the lesion was in the neck. The jaw, cheek, and neck are usually favorite sites. The abdominal viscera comes next in frequency. Israel and Partsch call attention to the carious teeth as being the starting point of the cases in the jaw.

He refers to Knox's statement, which is a true one, that consumption and actinomycosis may at times be hard to differentiate. He lays special stress on temperature, but says that in actinomycosis an evening rise is not common, except suppurative changes are going on. However, in the lungs it may run a long time, there being no symptoms excepting a slight cough and some expectoration. The appearance of swellings in a part of the body where it is suspected should always arouse suspicion, and to examine not only once but frequently the pus from such places, or pus from abscesses. The presence of ray fungus, that are at times difficult to find, will finally show it and establish a diagnosis. The specimen should be stained by Gram's method; the typical mycelium show best after this method.

The surgical treatment consists in incising the part, and with a heavy curette remove the diseased tissue as for as possible and pack iodoform gauze. The old iodide potassium treatment should be given along with this, though its efficacy is doubted. The X-ray may also be given a trial, but the prognosis is grave.

Appendicitis in Children.—*Annals of Gynecology and Pediatry*. July. By Robert W. Hastings, M. A., M. D.

Dr. J. H. Hess, of Chicago (Archives of Pediatrics), suggests the following points of diagnosis:

1. Spontaneous pain manifested in the very young by fitful crying and sleep. In typical cases it is at first localized at "McBurney's point," but it soon becomes diffuse, radiating from the umbilicus into the pelvis. Young children complain of "bellyache" and usually lie curled up on

one side. More rarely the pain may be referred to the right testicle or to the neck of the bladder, because of the close relation with the right ureter, a point which should be carefully borne in mind while operating. In rare instances we may have perforation before we get a history of pain. (Spieler.)

2. Hyperesthesia—Tenderness on pressure is apt to be difficult to localize in the young, and therefore of little value.

3. Muscle spasm or rigidity of the right rectus is present unusually early in children, but it is difficult to elicit and localize, because of the child's fear of examination and its tendency toward rigidity of the abdominal muscles in general. Its elicitation is one of our most valuable diagnostic aids and is a fitting reward after a gentle and patient examination.

These three symptoms, when associated with vomiting and constipation, make a positive diagnosis possible in at least a majority of cases of older children, but in infancy and early childhood the diagnosis becomes far more difficult, because of the tendencies of the child to evade examination, and it becomes nesessary to look for further aid.

4. Nausea and vomiting are usually present a short time after the onset of pain; they usually cease as soon as the stomach is empty, but reappear in the later stages of the disease when perforation has occurred and abscess formed or an intestinal paresis exists.

5. Chill—Rarely seen in the first stage.

6. Pulse—In simple cases the pulse usually corresponds with considerable regularity to the temperature, even more so in children than in adults; also as long as the process remains localized; when extensive peritonitis exists the pulse becomes rapid and weak, easily comprehensible and irregular in character.

7. Temperature is unreliable, as the worst types may run their course without any great rise of temperature after perforation and beginning peritonitis. Rectal temperatures only are reliable.

8. Constipation is the rule in these cases. Diarrhea may be present, and the latter cases as a group are less urgent than those associated with constipation, whose early occurrence usually indicates intestinal paresis. The absence of blood, bloody mucus, etc., is important, because of their predominance in intussusception.

9. Tympanites, with gradually-increasing persistent abdominal distention is usually a later development.

10. Flexion of the thigh, which is usually well brought out by attempts at extension and flexion of the two thighs.

11. Unconscious tendency to place the hands in the region of the appendix to prevent examination of the sensitive area, which, unfortunately, is not always located in the classical region, is of frequent enough occurrence to be of diagnostic value.

12. Rectal Palpation — In older children, whose attention can be

claimed, this method of examination is of prime importance. In catarrhal cases I have several times been able to locate the point of the greatest pain with accuracy, and not infrequently the outline of the inflamed appendix can be palpated through the thin rectal wall in these small pelves. In later stages its value for locating localized abscesses or intraperitoneal pressure is of inestimable value.

13. Tumor by abdominal palpation, if the illness is of several days' duration, associated with a septic temperature, rigor, leukocytosis, etc., should always lead to the consideration of appendicitis.

14. Increased frequency of micturition, due probably to the close proximity of the right ureter and bladder to the area of inflammation.

15. Leukocyte Count—As a rule, in children it is not as valuable as in adults, because of the great range under normal conditions, going to 20,000, or even higher. Probably the most reliable finding is a decided leukopenia of 5,000 to 8,000 in the presence of peritoneal involvement, which indicates either a low resistance or a preponderance of the infection over the natural resistance, and is always an evil omen. Probably more important than a simple increase will be a differential count when better understood. Gudohin estimates that in infancy polymorphonuclear cells average 34.0 per cent., monoclear lymphocytes 59 per cent., and transitional forms 6.4 per cent., while in later childhood the polymorphonuclears increase more nearly to the normal. Remembering these characteristics a leukocyte count of 30,000 or more, with 80 per cent. polymorphonuclear cells, or 15,000 with 90 per cent. polymorphonuclear cells, should always lead to the suspicion of the presence of pus. In intestinal obstruction the leukocytes number even 50-80,000, which must not be forgotten. In all cases the accompanying findings must be considered.

16. Iodophilia test, which, in the presence of pus, has some claim to recognition. My own experience with it has not been entirely satisfactory. Although the laboratory findings are of considerable value in the diagnosis of atypical cases, and aid in the prognosis of the most virulent types, they should not, except in rare instances, be allowed to set the time of operation. Therefore, to be of value, we should (1) count the number of leucocytes; (2) make a differential count, remembering the difference between the normal infants and adult count; (3) stain blood film by special methods. Iodin reactions, etc.

17. History of previous indefinite attacks of abdominal pain associated with a tendency to persist, and a slow retrogression of the group of indefinite symptoms, is of vast importance, and the history should always secure careful consideration.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE MEDICAL AND SURGICAL SOCIETY, JUNE 19 1905.

DR. WILSON: I have a child here in whom I have made a diagnosis cretinism, and I would like for members of the Society to examine the child and give me their opinion as to the prognosis in the case and as to whether the thyroid is involved.

DR. JOHN MOREN: My examination of this child leads me to believe it to be cerebral palsy, possibly due to meningitis. I do not believe it a case of cretinism.

DR. G. B. JENKINS: I did not examine the child carefully. The case does not seem a case of cretinism. It seems to be a case of lack of mental development, hardly a case of cretinism. It has not the facial expression of a cretin. I would say this to the Doctor, that he cannot do any harm by trying the thyroid, which is a specific for cretinism, if begun in time.

The only case of positive cretinism that I had and kept under treatment seemed to get entirely well under the thyroid treatment. Dr. Moren and I saw the case brought to me from Fisherville. This child does not look as that one did.

DR. CURRAN POPE: It seems to me that this case would fall between three diagnoses, cretinism, meningeal trouble, or one of the higher classes of idiots of which Musical Tom was one. I hardly think that the case could be diagnosed as cretinism. It does not possess the peculiar facial nor physical characteristics of the cretin. The face is too much flattened out in the transverse diameter. My own opinion is that it belongs to a higher class of idiots.

I would in passing say one word in regard to the use of thyroid extract, especially with children. I believe it is a drug that can do harm, and I have seen it do harm. I think it should be administered to adults with care, and that patients should not be given thyroid, turned away, and allowed to treat themselves by having a prescription filled and refilled, but should be made to report every few days to the physician. I have seen two cases with heart complications from thyroid tablets.

DR. WILSON (*closing*): I wish to express my appreciation to those who have discussed the case. I have never seen a case of cretinism. The facial expression and lack of development of the child struck me as being typical, and I made a diagnosis of cretinism. I am glad to be set right on this matter. I ordered a hundred thyroid tablets, and the child took them, and I thought that I noticed some improvement. The child did not come regularly to me.

REPORT OF A CASE.

This man is about thirty-five years old. His occupation is a plasterer. No loss of weight. Complains of pains at times all over his body, but the majority of his pains are confined to his chest, more especially on the left side. These pains are in the infra-mammary region. At times complains of a pressure of the chest wall. Feels that he can scarcely get his breath. He is very nervous. After retiring at night he feels his best; then, again, after lying down his heart feels like it would, to use his expression, "jump out." He is a moderate drinker, drinks mostly beer. He is at his worst early in the morning. The most relief he can obtain is from a glass of beer, but it is only for a time. He is a very light eater; consumes very little breakfast and dinner. He belches very little. His bowels are normal. I have had him on the salicylates and anti-ferments, the latter giving the best results.

In conclusion, the most interesting part of this case is that he has been treated by a number of physicians during the course of this disease, which covers a period of about three years, none of them arriving at the same diagnosis, one assuring him that he had organic heart trouble. My opinion is that it is due to some derangement of the stomach.

The above was presented before the Society of Physicians and Surgeons, June 22, 1905.

THEO. J. YAGER, M. D.

CORRESPONDENCE.

ROCKPORT, KY., June 14, 1905.

Drs. Samuel and Willmoth, Editors American Practitioner and News, Louisville, Ky.:

GENTLEMEN:—In a recent issue of your journal I note the leading article, "Emergency Surgery," by Dr. John R. Wathen, and the discussion on same. In the discussion, Dr. Griffiths says, "As a treatment for burns I have for a great many years used white lead. Next to that in efficacy is unguentine," etc.

While I very naturally hesitate to call in question anything Dr. Griffith might say, I cannot refrain from calling attention to a treatment which, in my opinion, as far excels white lead (I have used white lead) as white lead excels no treatment. I refer to the application of pure liquid carbolic acid. Some ten or fifteen years ago Dr. Ben H. Broadnax, of Louisiana, advocated this treatment in an article in a journal whose name I have now forgotten. I do remember, however, that numerous physicians wrote him to know if he really meant the application of *pure liquid carbolic acid*. It seemed to me very natural that his readers were skeptical, and even afraid to try it. In a second article he reaffirmed his proposition and detailed his method of using it.

Even then I was afraid to use it, but made up my mind if ever I suffered a burn on my own person I would try it. Years elapsed. Then I received a burn on the dorsal surface of three fingers, which was excruciatingly painful. I suffered for some thirty minutes before thinking of carbolic acid. I at once applied, with caution and misgivings, by the use of a small cotton mop on a match-stick, pure liquid carbolic acid. The skin at once became as white as cotton, and the pain was *instantaneously* relieved!

The relief was so magical and the skin so white that my misgivings assumed the ascendancy, and I applied alcohol, which at once restored the normal appearance of the skin, and *at once also* brought the pain again and as severe as before, and which continued after washing off the alcohol with cold water. Seeing that no damage had been done by the carbolic acid, I again applied it and with more confidence. The relief was as prompt and as complete as at first. I put no other dressing on the fingers, and, although the epidermis showed to be separated, there was no blister formed, and in an incredibly short time the fingers were well, shedding the epidermis over the entire burned area, and leaving a smooth, sound skin.

Since that time and during the past winter, I have used it in two cases of extensive burns, one of them of the second degree and both in girls of three years and less. I applied it rapidly and without hesitation. Both were suffering extremely when the application was begun. Within three minutes from my completing the application both had stopped crying, and one was asleep. I have never before seen burns do half so well. In both of these an ointment with lanoline base was used as after treatment. One of the little patients, to whose hand and arm I was making the application, jerked the fingers from me which I was holding and struck her cheek with the burned hand, which was still wet with the carbolic acid, and this resulted in a worse sore than any of the burns.

Dr. Broadnax used this in burns of all degrees, no difference how extensive. I should not hesitate now to do the same. I believe it to be *the ideal first treatment for all burns.*

J. D. MADDOX.

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else." —RUSKIN.

Original Communications.

HYPERCHLORHYDRIA.*

BY CHAS. G. LUCAS, A. B., M. D.,
LOUISVILLE, KY.

UNDER ordinary conditions the normal stomach, an hour after a test meal or three hours after a full meal, will develop an acidity from 40 to 60. Any considerable excess above this point, especially with an increase in the amount of free HCl, if accompanied by symptoms, is termed hyperchlorhydria. To be really correct, the term ought only to be applied to those cases where the total acidity and free HCl are both above normal.

At most, we can hardly set the limit, for all of us who analyze gastric contents are familiar with cases where there may be high figures for both total acidity and free HCl with few or no symptoms, and other cases where the ordinary limits may be reached and the symptoms be pronounced.

The causes of hyperchlorhydria are as yet not thoroughly understood. Hemmeter differentiates two forms: 1. Neurotic, with preponderance of nervous symptoms but no increase in the acid cells; 2. Where there is an increase in these cells. He believes that the first form may eventually lead to an increase in the acid cells by the greater demand for acid secretion. Other observers also believe that it is possible for the purely nervous form to ultimately lead to erosion, ulcer, spasm of the pylorus, etc. Albu, in a late paper on this subject, divides it into four forms: 1. Purely nervous disturbance of secretion; 2. That accompanying chlorosis; 3. An early stage of peptic ulcer; 4. The expression of a chronic, hyperplastic gastritis.

*Read before the Academy of Medicine of Louisville, September, 1905.

We find this condition at the extremes of life—my youngest case a boy of seven and the oldest a man of sixty-six—although the majority of cases are usually seen in early and middle adult life. In my own experience I have seen more of these cases in the male than in the opposite sex, but statistics do not show that either sex is more liable than the other. It is more often found in what we term the "better" class, but some of the most pronounced cases, where it seemed almost impossible for awhile to give relief, were in workingmen.

The influence of the nervous system is pronounced, and this class constitutes a large proportion of cases. In one case a buyer for one of our city houses invariably had an acute attack following his trips to the East. The total acidity has reached 110 and the free HCl 0.284 per cent. A professional friend, worried by a large practice and bad investments in real estate, was found to have a total acidity of 110, with free HCl 0.219 per cent. In another case, referred to me by Dr. Duncan, I found a young woman who was afflicted with a complex nervous condition, family quarrels, mucous colitis and the presence of a "parasite" in her stomach, due, no doubt to the reading of "Every One His Own Physician," or some of the "Family Medical Guides" issued by the numerous quack concerns. Examination of the gastric secretions after a test meal, developed a total acidity of 93 and free HCl 0.208 per cent. Another case, and one of the most pronounced, was in a business man of forty, whom I repeatedly examined both physically and as regards his gastric contents. The latter showed a total acidity of 130, with free HCl, 0.401 per cent., and the only cause to which I could attribute it was his habit of withdrawal that he had practiced for many years. I could relate other cases where no other than nervous influences seemed to be concerned in the production of this condition.

In neurasthenics any sudden emotion, grief or worry may bring on an attack.

Hyperchlorhydria is frequently the accompaniment of chlorosis. Oswald, quoted by Riegel, found in the latter's clinic that 85 per cent. of the cases of chlorosis examined had values for HCl above the normal. This has also been confirmed by other investigators.

Hurried eating and insufficient mastication; the use of large amounts of liquids, particularly cold water; alcoholic excesses and the excessive use of the various spices and condiments undoubtedly acts as irritants to the gastric mucous membrane and frequently give rise to hyperchlorhydria.

The most constant symptoms are the sense of fullness, pressure, heartburn, pyrosis and pain, following at varying intervals after a meal, but usually within one to two hours, sometimes longer. The pain may be so severe as to cause the patient to induce vomiting, and the decided acidity of the vomited matter is noticed, but usually they soon find that they can be relieved by the ingestion of milk or even water, or by the

use of some alkali, commonly the bicarbonate of soda. When the stomach is empty this class of patients do not suffer, and they soon find that they suffer less when they take frequent and small meals.

In the ordinary case of this kind sleep is not often disturbed, and the appetite and nutrition remain good. Headache and dizziness I have observed only in a few cases, and the majority of these were women.

Constipation is more often found than diarrhea, although both conditions occasionally alternate.

The physical examination, as a rule, is negative. Exceptionally, some general abdominal tenderness may be noted, but that usually disappears after an attack.

Hyperchlorhydria must be distinguished from ulcer of the stomach, and at times this differentiation is almost impossible. The acute tenderness on palpation and the tender point to the left of the twelfth dorsal vertebra in ulcer is absent in hyperchlorhydria. The vomiting of blood and the melena present in ulcer are significant symptoms. The pain experienced in ulcer usually comes on just at the close of a meal or shortly afterward, but in hyperchlorhydria may not develop for two hours or more. The ingestion of meats frequently brings on the pain immediately in ulcer, but not in hyperchlorhydria. Hemmeter recommends, where doubt exists as to the condition present, that the patient be treated for ulcer, a subsidence of the symptoms confirming the diagnosis; a continuation speaking for the hyperchlorhydria.

Acid gastritis is differentiated chiefly by the presence of mucus, epithelial cells and leukocytes in the wash water or in the aspirated contents after a test meal, and also by the fact that regular, daily gastric analyses will reveal normal acidity at some time in the progress of the nervous hyperchlorhydria.

Gall-stone colic occasionally may be mistaken for this condition, but the development of an attack independent of meals, the presence of jaundice, the greater severity of the pain and the irregularity of the attacks will serve to differentiate.

The treatment may be divided into dietetic, medicinal and physical. On the subject of diet clinicians of large experience hold different views. Some prefer a vegetable diet to the albuminous, because the latter, of itself, increases the amount of acid. Others, because of the hyperacidity, forbid starchy food and limit their cases to albuminoids. Personally, I have obtained the best results by following the latter plan. I instruct my patient to confine his diet to milk and hard boiled eggs, with a small quantity of well-buttered toast, for the first three days. After that time I begin to allow meats, advising broiled sweetbreads, well chopped; later roast beef, and gradually add to this until full diet is maintained. After the first three days I also allow potatoes, beans or peas in small amounts, insisting that whichever is taken it should be well mashed with a fork and thoroughly masticated. The free use of

butter or the administration of olive oil, that has given such good results in the Cohnheim clinic, is of decided benefit.

It is now pretty well conceded that frequent small meals give the best results. Naturally all irritants, such as alcohol, the various forms of acid foods, spices, condiments, *et al.*, must be forbidden.

Albu, whose large clinical experience entitles him to speak as an authority, has recently contributed an article on the treatment of this condition. He favors a vegetable diet; the food is well cooked, finely divided, and, if necessary, forced through a sieve. Vegetable puree of spinach or cauliflower are allowed, but coarser vegetables are forbidden. Unsalted butter, milk, cream and egg-fat are of value because of easy emulsification. He is also an advocate of the use of olive oil in one to two tablespoonful doses, one to two hours after meals.

Medicinal treatment: For the purpose of neutralizing the excess of acid I have had the best results from calcined magnesia, in doses from one-half to two drachms. If there is no complaint regarding gas, I usually combine bicarbonate of soda and possibly sugar of milk with it. If constipation exists rhubarb may be added, and the formula varied to suit conditions. I have usually found that the various forms of cascara act well. In nervous cases the use of the bromides, strychnia and the various preparations of the glycero-phosphates have been of service. Iron is especially indicated in the chlorotic cases.

In the majority of my cases I have given the extract of belladonna, beginning with one-sixth of a grain and increasing to one-third, three times a day, and I am convinced that these patients improved more rapidly, were freer from nervous symptoms aud suffered less than in those cases where I did not make use of the drug.

As to the physical methods, I have made use of the hot and cold compresses, alternating them, and believe that the few cases so treated were benefited. In the pronounced cases I have practiced lavage, both with plain water and with weak solutions of sodium bicarbonate, and have had excellent results. These cases were washed out during my office hour, or early in the morning before breakfast. While lavage is advised in obstinate cases late in the evening, usually about three hours after the last meal, my results have been so good that I have not yet had occasion to attempt it at that time.

DISCUSSION.

DR. ZIMMERMAN: I was glad to note that the essayist did not make use of the term "functional" so frequently employed in treating of hyperchlorhydria. I believe that the farther we advance in knowledge of this disease the less frequently we will use that term. Formerly, many forms of hyperchlorhydria, which are now regarded as having a well-defined anatomical basis, were classed as "functional," which merely emphasizes the ignorance of the profession at that time. The

more knowledge we acquire on this subject the less we will be inclined to attribute any of this class of cases to what is termed purely functional disturbance.

The question of the relation of hyperchlorhydria to gastric ulcer is a very interesting one, and they are often very difficult, as stated by the essayist, to differentiate, especially in cases of chronic gastric ulcer where the symptoms are similar to those of hyperchlorhydria, and which do not present the classical symptoms of ulcer and are apparently benefited by treatment for hyperchlorhydria.

In regard to the treatment of hyperchlorhydria, in the few cases I have had the best results have been obtained from the proteid form of diet. I do not believe much in the ———— form of diet, as experiments have shown that prolonged feeding of the lower order of animals on this diet tends to increase the secretion of acid, and may possibly cause an increase in the number of glandular elements in the stomach. As we advance in knowledge on this subject I believe that those who now advocate the ———— form of diet will ultimately adopt the proteid diet.

In regard to the use of bicarbonate of soda, I would be careful in giving it in cases where there is diminished motor power. The excessive amount of gas developed thereby is capable of producing severe pain. In one or two cases I have seen the pain from gastric ulcer markedly increase from the use of bicarbonate of soda.

Where any irritability exists in these cases, much good may follow the use of nitrate of silver, as in ulcer, by alleviating the pain and hyposthesia, and, to a certain extent, it checks the secretion. It also tends to equalize the acid. However, the amount of good it may do is limited on account of the small doses which must be administered.

DR. MORRISON: The real cause of hyperchlorhydria is a question of which, as far as I can determine, we have many theories, with but little definite knowledge. A great many call it functional, but I believe, as Dr. Zimmerman stated, that as we study further and acquire more knowledge of the cause of this disease we will find that there is some underlying cause in the stomach, such as the development of more acid cells.

It is peculiar what will cause hyperchlorhydria in some people. In some men it follows the excessive use of tobacco; I have seen such cases. In others I have seen this condition brought about by eating a large amount of chocolate. In my own case, about two hours after eating some of the ordinary chocolate candy I feel very peculiarly, followed shortly afterward by the symptoms of pain and sourness. I analyzed my stomach contents in one instance and found both the total acidity and hydrochloric acid greatly increased.

Nervous influences also have considerable bearing in many of these cases. I remember the case of a boy who, whenever he had a hard

trigonometry lesson to work, would develop this condition. He continued studying trigonometry throughout the year, and in the spring had a well marked case of hyperchlorhydria.

In regard to the treatment, I have found that diet is probably the most important thing, and this varies with the patient. I remember one gentleman whom I treated and who was treated by a number of other physicians before I saw him. He had been put on all the various forms of diet without improvement in his condition, and finally, without advice from any physician, began eating a large amount of sugar in the form of home-made candy, and with this he ate cornbread. He began to improve immediately, and to this day believes firmly in a diet of cornbread and candy. Other patients on the same diet, however, did not fare so well.

I believe the best thing in a majority of these cases is the proteid form of diet; eggs, rich milk and cream, veal and beef. I also like the use of olive oil. I have seen good results follow the administration of one or two ounces of olive three times a day.

It is peculiar what will relieve some of these patients. I have a patient, a man 60 years of age, who is entirely relieved by taking a big chew of tobacco. This goes to show that in many of these cases we have to treat the patient as a law unto himself. As a general rule, however, I believe the albumen diet, with alkaline treatment and olive oil, give the best results.

DR. MEYERS: In looking over a number of books on the stomach, I notice that great stress is laid on differential diagnosis between hyperchlorhydria and hypersecretion. I would like to ask the essayist whether, in his opinion, it is difficult to make a differential diagnosis, and whether the treatment would be very much different in the two conditions.

DR. BULLITT: I have a peculiar interest in this subject, being myself, at times, a sufferer from hyperchlorhydria. I am not quite sure that we have reached the point where the term "functional" may be absolutely discarded. Until some one is able to show us that the term "neurosis" should go with it, I believe "functional" should be retained. Beyond the anatomical basis lies some other basis which produces the anatomical condition. What is it that produces the condition which causes an additional number of secretory glands to functionate? I do not believe we have any definite knowledge what it is, but I have no doubt there is a so-called neurosis lying back of all this. I have suffered with this disease, and thought about it, and wondered what caused it. In my own case I have observed that the secretion of acid is directly associated with stress of work and worry in daily life, and I have found that on ceasing work and going away, the suffering disappears in a week's time. When the work and worry is eliminated we get away from the neurotic elements which, in their turn, produce the functional disorder.

Outside of this I am impressed with the fact that we seldom have pure and simple hyperchlorhydria. I believe it is practically always, to a greater or less extent, associated with other conditions of the stomach. One of these, notably, is motor insufficiency, and very frequently slight enlargement or slight dilatation of the stomach. I believe all of us will, at one time or another, accept these two things in connection with the condition or hyperacidity. The reason I am inclined to lay stress on the functional nature of the disease is that when you have the so-called neurotic elements you vary the manifestations of the disease. If it has an anatomical basis there would seem to be no reason why the anatomical disease should not go on; but when you vary these other conditions you arrest the so-called manifestations of anatomical disease.

Until you explain what neurosis is I claim we cannot get rid of the term functional.

DR. BOGGESS: This subject is one which is very interesting to the general practitioner. I am myself a sufferer from this disease, and know what I am talking about when it comes to the symptoms. Dr. Bullitt brought out a point which should be emphasized, namely, that it is the patient that is sick, while the stomach receives the brunt of the attack and sounds the alarm. In trying to remedy these cases the majority of us attempt to treat the organ, paying no attention to the patient.

One very frequent and potent cause of hyperchlorhydria which the doctor did not mention was that of eye-strain. I have seen a number of cases where simply correcting an astigmatism removed the exciting cause, and the stomach recovered without the aid of medicine. I very rarely have a case of hyperchlorhydria in which I do not have the eyes examined.

As far as treatment is concerned, it is best to look for the cause and remove it if possible. In the line of medicine, atropine and olive oil are the very best remedies we can use. I sometimes give olive oil an hour before meals, sometimes two hours afterward.

Atropine, if it does not produce too much discomfort, tends to limit the hydrochloric secretions of the stomach.

DR. MOREN: It has been my policy to prescribe a mixed diet, and I have had no occasion to change it. I always exclude sugar in any form, as well as those foods in which strings, skins and bones occur.

In regard to treatment, I am satisfied that electricity favors these cases, and I believe that static electricity is also beneficial. I have seen it do good in these cases.

As to drugs, I have no decided preference.

DR. LUCAS: I never use bicarbonate of soda, for the reason that in prescribing for the first time I always take into consideration the possibility of ulcer, and in those cases it is liable to do damage by over distending the viscus.

I have never had occasion to make use of nitrate of silver, but if I did use it, it would be in a greatly diluted form.

Dr. Morrison's statement that his patient is relieved by taking a chew of tobacco surprised me. I am a pretty good tobacco user myself, and whenever I smoke a strong cigar it gives me the heartburn.

In making use of olive oil, especially in cases where I am sure I am dealing with hyperchlorhydria, I always give it an hour before meals at least, and frequently two hours.

I believe that the best results I have obtained in these cases have been from its use, giving from one to two tablespoonfuls three times a day, always on an empty stomach, and gradually reduce the dose.

Answering Dr. Meyers' question, will say I have looked upon hypersecretion as not an entirely different condition. I never make diagnosis of the latter unless I can find gastric juice in the fasting stomach. I may see the patient one day and have him come back the following morning. If I find from one to three hundred cubic centimeters I begin to believe I have a case of hypersecretion. In the normal stomach we find from 20 to 50 cubic centimeters.

In regard to the functional nature of this disease and the efforts of the profession to put it on an anatomical basis, Hemmeter divides these cases into the neurotic and those where there is an increase in the number of acid cells. The man I spoke of was about 40 years of age, and we could find nothing the matter with him, although the contents of his stomach were examined a number of times. He responds very quickly to treatment, but in a few months the disease returns and he has it all over again.

In the case referred to by Dr. Tuley, this boy had a typical case of cyclical vomiting, but he has not had an attack since he was put on treatment.

So far as eye-strain is concerned, I had two cases which I believed were due to this cause, but when the patients were fitted with glasses it did not relieve their stomachs a bit. I have frequently seen these patients benefited by using Carlsbad water.

OPTICAL APHASIA—Report of Cases.

BY JOHN J. MOREN, M. D.
LOUISVILLE, KY.

THE subject of aphasia is very complex, and to many a very obscure one. Those who have had the benefit of post-mortem work doubtless appreciate the different forms more than those who have failed to have this opportunity. The word aphasia, according to the present knowledge, is a disturbance in the faculty of language. "Some

seventy-five years ago Dax determined the fact that disturbance of speech coincided with right-sided paralysis, i. e., with left-sided affection of the brain."

It remained for Broca, in 1861, to locate the ability to speak in the left third frontal convolution. Clinical findings soon demonstrated that all disturbances of speech did not arise from lesions located in this portion of the brain. Wernicke located the center for word sound in the posterior portion of the first temporal lobe. These two locations furnish the two principle and unquestioned varieties of aphasia, namely, motor and sensory. Each of these are divided into the cortical, subcortical and trans-cortical.

A third variety is spoken of as conduction aphasia, which is manifested more as paraphasia rather than any total loss of the power to understad nor express themselves. The questionable varieties are the subcortical and the trans-cortical. As to the former, one writer says, "answers neither to a clinical reality or pathological anatomy;" however, many good authors use the term.

The optical aphasia belongs to the class of trans-cortical aphasia, and I hope to show you that this form does exist. It was first described by Freund, in 1889, and arises from a lesion in the left temporal lobe. This lesion is so located that it interrupts the association tracts leading to the occipital lobe.

The principal manifestation is an inability to name objects. They can read, repeat, write to copy and dictation, but can not write voluntarily, at least my cases could not. They recognize everything. My case could talk voluntarily, but frequently stopped to get the right word for what he was describing.

Some authors class it as a motor, others as a form of sensory aphasia. Others would class it as conduction aphasia. If the cortex of the temporal lobe or the auditory center is destroyed we have word deafness or cortical senrory aphasia; so Starr gives it a very appropriate name, inter-cortical sensory aphasia. Many cases have been recorded in keeping with Freund's description. However, Strohmayer collected twelve cases, and the post-mortem findings varied some, showed multiple lesions. Berg collected eighteen cases of trans-cortical (motor and sensory), and concluded that it was impossible to locate the lesion by a trans-cortical aphasia. Schalten reported two cases of tumor of the temporal lobe with optical aphasia. Pick and Bacon report cases with optical aphasia and temporal lesions. Starr considered it a good sign in abscess form of ear disease.

Case 1.—Age 50, male, colored, reported to my clinic at the Hospital College, unable to express himself or use his right arm. The paralysis and aphasia occurred together very sudden, without any warning. However, he had previously suffered from vertigo. Examination showed flacid paralysis of right arm, and leg not affected. No pupillary, face

or bulbar symptoms. The pulse was slow and high tension. He could see and hear, recognizing everything; but when shown an object like a hat he could not call the name, though he recognized the word and could repeat it. He understood everything, gave no evidence of any trouble in his language except speaking voluntary when asked to name objects; all symptoms disappeared under iodides.

CASE 2.—A. M., age 30; occupation, plumber; patient of Dr. Sam Myer. While living in Texas he suddenly became blind, with slight disturbance of consciousness. This soon disappeared, leaving him with a partial paralysis of the right arm and a great deal of trouble in expressing himself. His physician treated him for lead palsy, and I must say that the paralysis did resemble a musculo-spinal paralysis very much. However, there was as much lack of co-ordination as paralysis. His aphasic symptoms were the same as in the first case. Knee and elbow jerks were exaggerated on right side. Pulse 108, small and regular. No pupillary, face or bulbar signs. Astereognosis present. The only thing he could recognize by touch was a silver dollar. He could read with understanding, but could not write voluntarily, though he could copy or write to dictation. Treatment proved of no service; he developed supraorbital headache, convulsions, and died in coma. These two cases illustrate the typical cerebral monoplegia. Temporal lesions do not cause motor or sensory symptoms. I do not report them as such, but the aphasic manifestation is similar to my third case. These cases doubtless belong to the class of Wernicke's conduction, Leube's transcortical motor or Daua's aphemia, and I regard the lesion above the fissure of Sylvius. In the second case probably it extends into the parietal brain, where tactite sense is stored.

As the first responded so quickly to the iodides I regarded it a syphilitic thrombus. In No. 2 I am in doubt; he denied leutic infection, and was in good health.

J. T., age 51, married, good clean family and personal history. In 1901, after taking a bath, he had a convulsion; his family could not give any definite description. No symptom followed except that he was "troubled" with left ear; otherwise he was apparently well. Six months later he had a second convulsion, which was confined principally to right arm. His "memory" failed after this attack; by this he meant the inability to name an object. The attacks increased, and I saw him in December, 1902. His attacks were typical Jacksonian of right arm, face turning to right side. No aura except at times; particularly in 1903 he noticed a dove flying toward him; consciousness not affected. These attacks began in arm by drawing, and were often stopped by firmly grasping the hand. There were no pupillary symptoms, no headache, vertigo, insomnia, nausea or vomiting. Reflexes active and equal, no sensory symptoms; pulse was 80, no fever. He could recognize objects by touch, but could not name them. His speech was rather slow and

hesitating; the gait was slow and appeared to be a little uncertain. He could read; in fact, continued at his position as a printer for some time. He could write from copy or dictation, but could not write voluntarily. He could repeat any word spoken to him, but could not name a hat. Often he would give the wrong word, but would recognize his mistake and say, "No, ah," etc. He never failed to give his name and street number. He could read aloud, but often stopped and hesitated on certain words. Medicine did him no good, and as his attacks were increasing and his health failing, he consented to an operation. In December, 1903, a good opening was made over the arm center, but revealed nothing. Barring a slight tendency to bleed he made a good recovery. He had no attacks until January, 1904, when he reported, complaining of cramp in right hand, and his attacks were always preceded by tingling in fingers. His hearing and sight were affected. Dr. Pusey reported a normal vision and could not hear watch tick at left ear. He did fairly well during 1904, having attacks at various intervals. August 3, 1905, he had eight convulsions. August 4, 1905, four, which became general and hard. August 5th developed right hemiplegia, without eye symptoms or slow and tense pulse. August 5th his right arm and left face began to jerk, clonic contraction, and continued to his death August 9th.

Post-mortem by Dr. John Richardson showed nothing except marked adhesions at point of operation. After hardening the brain in 5 per cent. formaline, sections showed a dilated left ventrical and a decided softening of sub-cortical portion of left temporal. The cortex itself did not appear abnormal, but the softening appeared just beneath and extended over the whole lobe. Dr. Hays reports it to be white softening due probably to an embolism; doubtless it appeared at first convulsion. As the destructive lesion is confined to the left temporal lobe this might be classed as a typical illustration of Freund's optical aphasia.

Aside from this it illustrated the conclusions of Knapp, Starr, Mills, Walton, etc., that the convulsions in themselves offer no help in localizing the lesion. The operation was of little real service. Even if the opening had been placed lower it could not have resulted in much improvement under the circumstances, other than to relieve pressure in that particular portion. Codman, after reviewing sixty-three cases of brain tumor, suggests that the best method for relief would be to devise an operation to relieve intercranial pressure. The adhesions around the trephine doubtless influenced the convulsions, as a distinct aura precede each attack after the operation.

220 West Chestnut.

EXOPHTHALMIC GOITRE: Basedow's Disease—Grave's Disease.*

BY GEORGE B. JENKINS, M. D.
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MR. PRESIDENT AND GENTLEMEN—My only apology for such an elementary paper is that by not taking any side or theory I can provoke a full discussion of this, to me, most interesting subject.

Embryologically, the thyroid body is an organ common to all vertebrates. It consists of a median and two lateral lobes, and is developed, like the lungs, from the epithelium of the gut tract, coming from the pharyngeal pouch. When the parts close a connecting channel or duct remains, which extends from the median portion of the gland to the base of the tongue, the foramen cæcum being the remains of this opening. This duct is usually obliterated by the eighth week of fetal life in man, but may remain in whole or in part throughout life, and in the lower orders of life the connection with the alimentary process is constant and active.

Anatomically, it is classed as a ductless gland, and is composed of a number of closed vesicles lined with columnar epithelium; these vesicles are filled with a yellow, glairy fluid. The gland has a remarkably rich blood supply and a free lymphatic connection.

Physiologically, the acini discharge their contents in part by rupture, in part in the process of pure colloid production, by secretion into the intercellular interstices, from which it reaches the lymph channels, thence the blood stream. The constituents of the gland secretion are colloid nucleo-albumin, iodothyrin, leucin, xanthin, lactic, succinic and volatile fatty acids.

A number of experimenters have shown that extirpation of the gland has been followed by death, with symptoms of chronic intoxication.

Briefly stated, the function of the thyroid is to neutralize a sbustance produced in the body, the accumulation of which has a toxic influence on the nervous system. The accessory thyroids appear to have a similar function.

Dana classes exophthalmic goitre as a glandular neurosis associated with various neurasthenic and vasomotor symptoms.

Etiology.—The exact cause is as yet unknown. It is a disease of the reproductive period of life, being rare before puberty and after the menopause; females predominate in the proportion of four to one. A neuropathic heredity is common, and other neuroses are frequently associated; it is common in certain localities; climatic and telluric conditions may influence it; pregnancy may excite and always influences it; reflex conditions, as from the nose or uterus, may have some influence; goitre and heart disease do not predispose to it; the most frequent exciting causes are powerful, depressing emotions and severe physical or

*Read before the Louisville Neurological Society March 9, 1905.

mental strain; rarer causes are infectious diseases and trauma. It has been experimentally produced by injuring the restiform bodies, also by administration of the gland extract.

Pathogenesis.—The main arguments are rather unequally divided between the glandular and nervous origin.

The sympathetic nerve theory has been generally discredited.

Lander Brunton thinks it probable that the corpora quadrigemina are primarily involved.

The bulbar theory is based upon (1) occasional lesions being found in the bulb; (2) its being produced experimentally by injuring the corpora restiforms; (3) the cardiac, vasomotor, secretory and thermic changes; (4) and the occasional association of palsies, neuralgias, auditory disturbances and tabes.

Charcot maintained that it was a pure neurosis.

The glandular theory commends itself because of (1) the local changes in the gland; (2) results from operative procedure; (3) behavior upon administering gland extract and thyroidectin; (4) the antithesis to and occasional termination in myxedema.

The toxic theory has some support, and poisonous substances have been found in the urine. Others claim a post-infectious thyroiditis, a destruction of the gland lymph spaces and a consequent flooding of the venous channels with the secretions.

Dana sums up the arguments as a primary nervous involvement, with the gland disease leading to an excessive secretion causing the principal symptoms. The nervous system requires for its proper nourishment and natural functioning a certain supply of the thyroid secretion; if this be excessive there is an erethistic and nervous condition produced as in Basedow's Disease; if it is deficient a hebetude and depression is produced as in myxedemia.

Pathology.—The gland may present any goitrous variation, from a simple congestion to the most destructive lesion. There is usually a true hypertrophy, with an increase in glandular and connective tissue, and an increased vascularity, with an increased or perverted secretion; the lobes are generally unequally enlarged, firm and present reddish, pugsy aspect. After the enlargement reaches a certain stage the epithelium degenerates and breaks down, forming large acini filled with material secretion; in later stages the secretion may become thin and watery; these acini from rupture and coalition may form cysts; the vessels are thickened, dilated, and in chronic cases atheromatous. The connective tissue increase may be so great as to form a sclerosis. The thymus may be persistent, even enlarged. The nervous lesions are varied, small hemorrhages in the centers, cell degeneration, vascular changes.

Atrophy of the restiform bodies, ascending root of the fifth nerve, or the solitary bundles have all been noted occasionally. Lesions of tones

may be found associated. The only changes in the cervical sympathetic are those dependent upon the cachetic state.

The heart is often dilated, the walls thickened, and may present a fatty degeneration. The vessels are dilated.

Muscles show a fatty infiltration, and at times increased or degenerated neuclei.

Symptoms.—It may be an acute condition with a rapid onset and speedy development, or a chronic one of gradual development, requiring at times one or two years to attain the full blown panoply. The symptoms are divided into major and minor. The former consist in (1) tachycardia and palpitation; (2) goitre; (3) exophthalmus; (4) tremor.

The heart hurry is the only essential symptom, and is generally the first developed, the rate ranging from 90 to 200 beats per minute, and is frequently of irreguiar, tumultuous action, and associated with palpitation. Cyanosis, precordial distress, and even anginoid attacks may appear; the vessels are dilated, prominent and pulsating.

The thyroid may show enlargement at any stage or may never do so. Whilst usually symmetrical one lobe only may be enlarged, the gland may fluctuate in volume. Palpation reveals a thrill; auscultation a bruit; vascular changes and nodulation are detectable; the gland may rarely become atrophic; then a myxedematous condition develops.

Exophahalmos generally promptly follows the enlargement of the gland, and is most pronounced upon the side most enlarged; it varies from a slight prominence to actual dislocation of the globe. When projection is marked interference with the action of the lid is apparent, and consequent inflammation of the cornea develops; conjunctivitis or keratitis may complicate.

A fine tremor is almost uniformly present, averaging 8 or 9 per second; most frequent in upper extremities.

Among the minor symptoms are noted hyperidrosis, hot flashes, subjective sensations of unbearable heat, occasional hemorrhages, albuminuria fairly common, polyuria or glycosuria may appear; occasionally edema develops.

Nervousness is early and marked, a mental erethism, irritability of temper, change of disposition, patient is emotional, impressionable, and may have hallucinations of sight and hearing, and rarely mental derangements have been noted.

Digestive disturbances are common, and profuse watery diarrheas induce a serious prostration; these are followed by emaciation which may reach an extreme degree; respiratory disturbances are frequent, and there is a shallowness of respiration and a deficiency of expansion manifested as a part of the general muscular weakness.

The course and prognosis vary considerably. The majority of cases are of protracted duration, an early death or recovery being equally rare. The cardiac symptoms are the prominent features regarding prognosis.

About 20 per cent. recover; over 50 per cent. reach a fairly comfortable state. The cases which are rapidly developed are the most favorable; those with prominent goitre and exophthalmos are worst.

Treatment.—Rest in bed, with absolute freedom from worry and excitement, is the most important single feature; nerve sedatives are valuable. Altitude seems to benefit some cases. A modified diet, no alcohol, tea, cofiee or spiced foods being allowed. Iodides, bromides, iron, arsenic, quinine, dilute phosphoric acid, sodium phosphate and salicylate, and belladonna to physiological limit have all been used with some success. Electricity, both galvanism and faradism, as well as kataphoresis, is to be recommended.

For the heart, strophanthus, spartein, strychnine and probably digitalis in increasing doses.

For the palpitation, the ice bag locally and Hoffman's Anodyne internally, with the tonics just mentioned.

Adrenalin and thymus have both been used. Experiments are now being made with the milk, blood and blood serum, thyroidictin. Of thyroidictomized animals favorable results are being recorded, but it is yet too early to do more than speculate as to their value.

Surgery offers some hope. The procedures recommended are (1) ligature of thyroid arteries; (2) division of the isthmus; (3) removal of a portion of gland; (4) anchoring a portion of gland in the incision.

Starr's table of results is: Cured, 74; improved, 45; unaltered, 3; unknown or doubtful, 45; died, 23; total, 190.

JIQUERITY AND TRACHOMA.*

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MR. PRESIDENT AND GENTLEMEN OF THE SOCIETY:—I have selected this subject and have written this paper with a view of interesting the general practitioner, and enlisting his services in behalf of those unfortunates who have suffered for years from that most uncomfortable condition, trachoma or granulated lids.

The etiology and pathology are too widely and well known to think of mentioning them to this assembly and I will treat the case clinically. The conditions found in acute cases are abrasions of the epithelium, granulations more or less profuse with thickening of the lids, photophalia with pain from friction and increased secretions. The upper lid is more involved than the lower, owing to the friction from the lid pass-

*Read before the Louisville Medical and Surgical Society, September 18th

ing over the globe in opening and closing the eye, which keeps the surface abraded. In the chronic conditions the lids are not so thick as in the acute, due to contraction of cicatricial tissue. The cicatricial tissue may warp the lid in any direction, necessitating an operation. The granulations in chronic cases, as a rule, are less profuse than in the acute, but are firmer and more irritating to the cornea. In all cases the deformity of the lids should be corrected before the removal of the granulations is begun. Relief from trachomatous lids can never be had until the abraded surface has been replaced by epithelium or cicatricial tissue. In acute cases the epithelium is usually replaced more quickly than in chronic cases. In chronic cases cicatricial tissue usually fills the breach.

There are many methods adopted for removing granulations. Escharotics has always been and is now very popular. Crushing the granular tissue with forceps or other means, followed by application of escharotics, is now the most popular method. The method of treatment which I will discuss to-night is an old one. It was first used, I believe, by Wecker, in 1882. It was used for some time, but was abandoned, and is now only used in cases where pannus exists.

The inoculation of the eye with jiquerity is indicated in any stage of the disease, regardless of complications, except ulceration of the cornea. Where the cornea is vascular or hazy its benefit to the cornea is marked.

The infusion, tincture or powder may be used. I prefer the impalpable powder, which is dusted lightly on the everted lid. The eye is then closed for two or three hours with a light bandage. The application is always attended with severe pain, which usually becomes intense from three to five hours after the application. Swelling of the lids often occurs, and often extends to the forehead, cheek, nose, and sometimes the lips are swollen. It has been advised to inoculate one eye at a time, but I inoculate both eyes at the same sitting. The objection to inoculating both eyes is the increased pain and greatly increased swelling. Twenty-four hours after the powder is applied the mucous membrane will be covered with a gray film resembling a membrane. It will often form on the lower lid and on the ocular conjunctiva, especially when these structures are granular. The membranous film will cover the cornea if it is hazy or pannus exists. The film-like membrane begins to come away about the third day, and has usually disappeared about the seventh day, and when necessary the second application can be made about the tenth day. The membranous film is formed from the epithelium and granular tissue, and is greatest over the granular area of the lid. The application can be repeated as often as necessary to relieve the condition. I have often found it necessary to make five or six applications extending over a period of six weeks or two months. The repeated applications seem to produce no bad effect on the cornea in cases where the cornea is not involved.

The granulations should always be rolled or crushed just before the powder is applied. Where the lids are thickened the applications should follow each other about every ten days so as to keep up absorption. Escharotics, silver nitrate, sulphate of copper, etc., with rollers, may be used in conjunction with jiquerity, but the escharotics will produce greater destruction of normal tissue than the jiquerity. I have never lost an eye from the use of jiquerity, but have had the swelling assume alarming proportions, and for this reason I never apply the powder until the patient is in an infirmary where the swelling can be best controlled, and in all cases I have gotten better and quicker results than from any other method. I have been unable to get relief or even to keep up the treatment in but few cases treated outside of an infirmary, on account of the inability to control the pain and the alarm the swelling and other symptoms cause the members of the patient's family. The results I have gotten from this treatment have been most excellent, and I use it in all chronic cases.

I begun three years ago to use jiquerity on all cases of granular lids that would consent to go to an infirmary and remain as long as desired; and out of 73 cases in not a single instance has the result been disappointing, the patients being discharged from the infirmary in from six weeks to three months. Twenty-two cases were placed in the infirmary the second time from four to eight months after the first treatment and jiquerity applied again with complete relief.

VENTRO SUSPENSION AND FIXATION OF UTERUS.

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WHEN we are called upon to treat the malpositions, such as retroversion and prolapse of the uterus by suspending or fixing the uterus to the abdominal wall, we have concluded or found that all simple means such as rest, mechanical, medicinal and some operative measures have been tried for a certain length of time with no satisfactory result.

These conditions are the result of a lacerated pelvic floor, a relaxed outlet or increased weight from below. The normal position of the uterus being disturbed the intra-abdominal pressure is exerted on the fundus and not on the posterior wall, thus gradually forcing the more or less retroverted uterus downward in a greater or less condition of prolapse. After a perineal tear the uterus has a clearer field to descend and less resistance to overcome, but in those cases where the perineum has not been torn, but the uterine supports and pelvic floor are lax, pressure

from above can overcome the resistance offered by the ligaments and the uterus becomes retroverted. Retroversion is always an initialstep to the prolapse, which may occur when the retro-displacement is associated with any relaxation of the vaginal outlet.

In some cases of prolapse of anterior and posterior vaginal wall and descent of uterus, the cervix appearing at the outlet, even though the perineum is repaired and the anterior vaginal wall retrenched, the result may be poor; for the uterus and cervix will simply be pushed back and allowed to rest on the upper part of the narrowed canal and not put in its normal position. The cervix here is like the point of an arrow, and will gradually make its way to the outlet again.

In these cases at first why not, in addition to repairing the perineum, do a suspension, and take the strain and tension off the uterine supports, allowing them possibly to return to normal? If they do not, you are satisfied that the uterus is in nearly its normal position and cannot descend again.

Some authorities advise amputation of cervix; then repair of perineum. If we do this can we feel sure that the uterus will be returned to its normal position? Is it not possible for the body of the uterus to come down and out at some future time?

We must admit that a great many cases of retroversion exist and the woman is not aware that anything is wrong; to these and others displaying slight symptoms we can relieve other than by operation, but when they appear with that feeling of weight in the pelvic, inability to walk or exert herself without sense of pain in abdomen, extreme backache—in fact, almost an invalid—then is a suspension or a fixation indicated to relieve the condition.

Also in prolapse, when the uterus has descended to the first degree and is working its way down, the version or descent is not the cause of discomfort, but it is due to the uterus tugging and dragging upon the broad ligament. Simply repairing the outlet will relieve the pain and discomfort, but the tendency to prolapse and flexion still persists to some extent.

Let us consider what methods may act more advantageously in some cases.

Alexander's operation of shortening the round ligaments commends itself to us in retroversion where there are no adhesions whatever and the woman has not passed the child-bearing period. In addition the operator must remember to retrench or repair the perineum, to make it complete. Another method where the abdomen has been opened to fix or suspend the uterus and it is found necessary to remove diseased tubes and ovaries, then by their removal we have shortened the broad ligament to such an extent that probably it has brought the uterus up to nearly its normal posture, and nothing else is necessary to sustain it there than the repair of the perineum. So we can conclude that the contra-indications

for Alexander's operation become the indications for a suspension or fixation. The advantage to be gained by doing a fixation or suspension is that it permits the inspection of the peritoneal cavity, the treatment of diseased appendages, the breaking up of adhesions, and bringing the uterus forward in a position which is likely to give relief. One disadvantage is that the operation is not free from the danger of a loop of the intestine becoming entangled with the suture or the new ligament holding the uterus.

In numerous cases where a fixation had been done, the fundus had become firmly adherent to the abdominal wall, and the result was some interference with gestation and labor. If, however, a suspension had been done, most likely there would have been no interference whatever.

Noble collected the histories of 177 cases of labor in women where a *fixation* had been done, and found that dystocia was frequently noted.

Williams of John-Hopkins, in his latest work reports out of twenty women he delivered after a ventro fixation or suspension had been done previous to pregnancy only one had any serious trouble; in this case the abdomen was opened a few weeks later and the fundus found firmly attached to the abdominal wall by silkworm gut sutures.

Howard Kelly reports on 49 of his patients who became pregnant after a ventro *suspension* none had any trouble whatever during gestation and labor.

To decide whether we shall do a suspension or fixation is an easy matter. Some contend that a fixation is obsolete, but there are in fact some indications for it. With our knowledge and personal experience and that of others, it seems that ventro suspension in connection with the perineal repair is the only justifiable procedure during the child-bearing period. However, in women past the menopause, where the uterus has not undergone involution or atrophy, and the retroversion and prolapse remains, and their occupation is such that keeps them on their feet a great deal of the time, then ventro fixation is indicated.

The Operation.—After the abdomen has been opened as near the symphisis as possible, the first two fingers are carried down back of the uterus to ascertain if the uterus is movable and not held down by adhesions, then the tubes and ovaries are examined and freed from any adhesions which might be present; the fundus of the uterus is now brought up into the anterior position by the fingers and held there by tenacula forceps.

If a suspension is to be done, the curved needle, carrying a No. 2 plain cat gut, or, as some prefer, No. 1 chromic gut or silk is passed through the peritoneum on one side low down on the incision, passing it through the tissues of the fundus uteri about one-fourth of an inch deep, a little posterior to a line connecting the tubes, up through the peritoneum of the opposite side, corresponding to the first point of entrance. The

next suture is passed about half an inch above the first in the peritoneum, but more posteriorly to the first in the fundus uteri.

The peritoneum is now sutured, but before it is closed entirely the finger is carried down to bring the uterus up to the abdominal wall, the suspension sutures are drawn fairly tight and tied outside or over the peritoneum. The rest of the structures of the abdominal wall are sutured as you may desire.

If for any reason it is my desire to do a fixation, and it is seldom indicated, silk had best be used, and it must not only go through the peritoneum but it must include the fascia and muscle, and the fundus brought up firmly to the abdominal wall, so that short, firm adhesions may form.

A short time after a suspension the uterus will drop a little downward and backward, favoring the development of the new ligament. What ligature material to use in a suspensien is a difficult question. Where the uterus is nearly the normal in size and has not been in tne posterior position for a great length of time, plain or chromic cat gut will answer well the purpose, but when it is large and congested silk or celluloid yarn will serve to a better advantage.

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Editorial.

WHAT SHOULD BE THE REQUIREMENTS OF PERSONS BEGINNING THE PRACTICE OF MEDICINE.

While the subject of entrance requirements has been the bone of contention in the past among colleges, we are now fully cognizant of the fact that requirements for practice by the State is now the bone of contention among colleges, and in the past, on account of lack of standard requirements by the State, many unqualified men have been allowed to practice medicine, much to the detriment of their clients, as well as to the disgrace of the profession.

We believe that the time has come in which a standard of fitness must be obtained before such a person can even be allowed to apply for a license to practice medicine. A great howl has gone up among many on account of development of the State Boards, which we rightly believe is the privilege of each State, in order that it may protect its citizens against the unqualified and the charlatan. The reason for this opposition, as we believe, is the low grade medical college, which can be corrected, in our opinion, in no better way than by the concerted action of the several State Boards.

As to the right of the State to control the registration of graduates of medicine, it is in our opinion proper and right, and is also the only method that will compel a standard of teaching in all medical colleges that can be accepted indiscriminately by the State Board. It is here that a standard must be fixed. The following, taken from an address delivered by Henry Beats, Jr., M. D., before the fourteenth annual meeting of the National Confederation of Medical Examining and Licensing

Boards, sets forth plainly the situation, and is well worth the study of those interested in medical education:

"The State, in the exercise of its power to provide for the general welfare of its people, may exact from parties, before they can practice medicine, a degree of skill or learning in that profession upon which the community employing their services may confidently rely; and to ascertain whether they have such qualifications, requires them to obtain a certificate or license from a board or other authority competent to judge in that respect. If the qualifications required are appropriate to the profession, and attainable by reasonable study or application, their validity is not subject to objection because of their stringency or difficulty.

"Legislation is not open to the charge of depriving any one of his rights without due process of law, if it be general in its operation upon the subjects to which it relates, and is enforceable in the usual modes established in the administration of government with respect to kindred matters; that is, by proceedings adapted to the nature of the case, and such is the legislation of West Virginia in question.

"The unconstitutionality asserted consists in its alleged conflict with the clause of the Fourteenth Amendment, which declares that no State shall deprive any person of life, liberty or property without due process of law; the denial to the defendant of the right to practice his profession without the certificate required constituting the deprivation of his vested right and estate in his profession, which he had previously acquired.

"It is undoubtedly the right of every citizen of the United States to follow any lawful calling, business or profession he may choose, subject only to such restrictions as are imposed upon all persons of like age, sex and condition. This right may in many respects be considered as a distinguishing feature of our republican institutions. Here all vocations are open to every one on like conditions, some requiring years of study and great learning for their successful prosecution. The interest, or, as it is sometimes termed, the estate acquired in them, that is the right to continue their prosecution, is often of great value to the possessors, and can not be arbitrarily taken from them, any more than their real or personal property can thus be taken. But there is no arbitrary deprivation of such right where its exercise is not permitted, because of failure to comply with conditions imposed by the State for the protection of society. The power of the State to provide for the general welfare of its people authorizes it to provide all such regulations as, in its judgment, will secure or tend to secure them against the consequences of ignorance and incapacity as well as of deception and fraud. As one means to this end, it has been the practice of different States from time immemorial to exact in many pursuits a certain degree of skill or learning upon which the community may confidently rely, their possession being gen-

erally ascertained upon an examination of the parties by competent persons, or inferred from a certificate to them in the form of a diploma or license from an institution established for instruction on the subjects, scientific or otherwise, with which such pursuits have to deal. The nature and extent of the qualifications required must depend primarily upon the judgment of the State as to their necessity. If they are appropriate to the calling or profession, and attainable by reasonable study or application, no objection to their validity can be raised because of their stringency or difficulty. It is only when they have no relation to such calling or profession, or are unattainable by reasonable study or application, that they can operate to deprive one of his right to pursue a lawful vocation.

"Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which the health and life depend, and requires not only a knowledge of the properties of vegetable and mineral substances, but of the human body in all its complicated parts, and their relation to each other, as well as to their influence upon the mind. The physician must be able to detect readily the presence of disease, and prescribe appropriate remedies for its removal. Every one may have occasion to consult him, but comparatively few can judge of his qualifications of learning and skill which he possesses. Reliance must be placed upon the assurance given by his license, issued by an authority competent to judge in that respect, that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society may well induce the State to exclude from practice those who have not such a license, or are found upon examination not to be fully qualified.

"The same reasons which control in imposing conditions upon compliance with which the physician is allowed to practice in the first instance may call for further conditions, as new modes of treating diseases are discovered, or a more thorough acquaintance is obtained of the remedial properties of vegetable and mineral substances, or a more accurate knowledge is acquired of the human system and the agencies by which it is affected. It would not be deemed a matter for serious discussion that a knowledge of the new acquisitions of the profession, as it from time to time advances in its attainments for the relief of the sick and suffering, should be required for continuance in its practice, but for the earnestness with which the plaintiff in error insists that, by being compelled to obtain the certificate required, and prevented from continuing in his practice without it, he is deprived of his right and his estate in his profession without due process of law.

"We perceive nothing in the statute which indicates an intention of the Legislature to deprive any one of his rights. No one has a right to practice medicine without having the necessary qualifications of learning and skill; and the statute only requires that whoever assumes, by offer-

ing to the community his services as a physician, that he possesses such learning and skill, shall present evidence of it by a certificate or license from a body designed by the State as competent to judge of his qualifications."

This quotation demonstrates the substantial legal foundation upon which this Confederation securely rests, and makes plain the constitutionality of all the acts it performs, if done in accordance with the statutory specifications composing the various acts of assembly represented. It answers the several objections which have been urged *ad nauseum* as to infringement upon personal liberty, class legislation, State rights, etc., etc., and places the entire subject so clearly before any intelligent body as to forever establish the *fact that the practice of medicine is properly and justly regulated by the authority of the State.* It enables us to promulgate these truths, and teach the involved principles to those less informed, and thereby to indirectly set in motion and augment the power of those influences that will enable our laws to be both respected and enforced, and the *qualifications* of the licentiate established beyond any reasonable doubt.

To summarize, it is apparent that this Confederation by reason of its inherent character, and in the discharge of its duties, has had to contend with the baser element of the profession, so aptly termed and known as the Commercial Medical College; that the type of opposition precipitated against the conscientious administration, by the several boards, of the various statutes represented, is conspicuous for the absence of moral principle, or better stated, because of the power for evil emanating from depraved character; that on the other hand, honor and integrity prevailed, and the commercial colleges forced to adopt advanced standards, and graduate men and women far better trained than ever before; that by this struggle the profession and laity have been educated so as to be able to recognize the justice and the necessity for the legislative control of the practice right; that there still prevails in the profession and laity remnants of that superstition and ignorance which was rife in primeval periods, and is at present a potent reason for commercial medicine to temporarily succeed in securing co-operation in effort to prevent the establishment of conditions essential to the proper growth and development of medical science, and the consequent education of skilled and competent practitioners. It teaches us the *type of character* with which we have to deal in discharging our duty.

The work of this Confederation thus far accomplished has resulted in a marvelous betterment of medical education, and has so influenced the medical college that for its self-interest alone, if from no higher motives, it is obliged at least to assume a virtue. Better than all, the public mind is able to discriminate between the reputable and the commercial institution, and their respective graduates.

For obvious reasons, our country, as a whole, has not yet acquired a

uniform standard of preliminary education to be exacted of medical students, neither has it a curriculum of medicine of a standard the mastery of which is a guarantee of *qualification* alike for every one possessing the doctorate. *The formation and adoption of a rational curriculum of medicine is yet to be accomplished*, and by the co-operative work of this Confederation much can be done to reach this desirable result.

It must not be overlooked that this body is legally empowered to actually establish that standard of medical education. The authority with which it is endowed is the imposed trust on the part of each State exercising its indisputable right to demand proof of qualifications to be possessed by every citizen assuming the responsibilities of pursuing a vocation which involves the greatest interest of his fellowman.

It, therefore, possesses a peculiar relationship with human events, and is in honor bound to elaborate the conditions underlying the discharge of its duties, and effect the necessary modifications which experience demonstrates to be of vital importance for the proper administration of its functions. We then find ourselves entering upon duties of a still higher type because those so well fulfilled have served, in the main, their temporary usefulness.

This brings us to the recognition of presenting problems the solution of which it is our high privilege to accomplish. The need for amendment of many of the original statutes is one of these. Experience has shown that without *severe punitive measures*, illegal practice is not possible of eradication. Mere fines are easily paid by quacks, charlatans and impostors, but if to fine *imprisonment* were added, a most effectual means would be supplied to rid the community of this form of evil.

The need of revoking license because of criminal practices and moral degeneracy should be considered, and proper amendment enacted rendering practicable *revocation of the practice right.* It should also be required of every regularly registered physician and licentiate that his certificate or legal instrument be exhibited in a conspicuous place, so as to inform the public that *qualification to practice is possessed*, and the physician to be a *legal practitioner*, and so declared to be by the authority of the Commonwealth.

The educational value of this would be immeasurably great, and achieve much in instructing *the public how to discriminate between the qualified and unqualified*, the legal and illegal practitioner, and thus be duly protected.

More important than all is the fact that the examinations should be practical or clinical. This is repeated here because, now realizing the role each board could act, and in so doing be upheld by the moral force of constitutional and legal authority in conducting this type of examination, it is apparent how, by effecting amendment to medical law, exacting actual *clinical tests*, the medical college would be indirectly forced to found a curriculum, and so administer it that its graduates could success-

fully meet the requirements of the State, and truly merit the title of a *qualified practitioner of medicine.*

Legislative enactment of amendments, framed with these ends in view, would soon complete the grand work of securing to the citizens those who are competent to have reposed in them the highest responsibilities, the most sacred confidence and trust, and, in a human sense, constitute the qualified director of those events upon which the greatest possible achievements of life are based.

NOTES.

THE next International Medical Congress will be held in Lisbon, April 19 to 26, 1906. It is expected that it will be one of unusual importance for a meeting which will be held in what has always been considered as an out of the way country. Already the titles of papers from some of the most distinguished men of the medical profession have been received.

DR. ARTHUR REYNOLDS has been appointed Medical Director at French Lick Springs, Indiana. One who has studied disease and health to the depth Dr. Reynolds has and accomplished as much as he did in Chicago as its Commissioner of Health will make a valuable acquisition for the Springs. We congratulate French Lick and its guests on having such an able man in attendance.

DR. T. G. CONTRI, of Winona, will attend the meeting of the Association of Military Surgeons of the United States, to be held in Detroit, Michigan, in the capacity of delegate from Kentucky.

THE JEFFERSON COUNTY MEDICAL SOCIETY meets at the Galt House September 19, 1905, at 8 o'clock. An excellent program has been arranged for the occasion.

Recent Progress in Medical Science.

OBSTETRICS.

IN CHARGE OF

EDWARD SPEIDEL, M. D.

Professor of Obstetrics and Diseases of Women, Hospital College of Medicine.

PEDIATRICS.

IN CHARGE OF

PHILIP BARBOUR, M. D.,

Professor of Pediatrics, Hospital College of Medicine.

OBSTETRICS.

A number of important papers have been published on this subject in the last few months that should not only interest the obstetrician, but the general practitioner and surgeon as well, for the reason that they seem to throw a new light upon those hitherto obscure conditions of pregnancy, hyperemesis gravidarum and eclampsia, and give a new cause for puerperal infection.

Hepatic Insufficiency in Obstetric Practice.—By J. Clifton Ogden, M. D., *Journal Amer. Med. Asso.*, April 8th, 1905. The author calls attention to the fact that it must soon be conceded that there is a special auto intoxication of pregnancy. The fact that potentially virulent germs are to be found in the majority of puerperal uteri leads to the belief that there is a predisposition to infection. This predisposition or autotoxic state corresponds to functional incapacity or insufficiency of the liver. A few obstetricians, and the author numbers himself among them, ascribe all the minor and severe affections of pregnancy, such as gastric disorders, headache, alteration of character, pruritus, chloasma, hyperemesis, gravidarum, acute yellow atrophy of the liver, eclampsia and polyneuritis, to a common origin and closely related, and all referable to the same source, and it also appears that post partum eclampsia, sudden death in the puerperium and much of puerperal sepsis are referable to this same source, gestatory toxemia which persists into the puerperium.

Certain women show sufficient evidence of a predisposition to hepatic insufficiency as to render the occurrence of grave symptoms of toxemia at the outset of pregnancy a foregone conclusion. It is hereditary. If there is a family history of biliousness it will show itself in the character of the pregnancies of the female relatives. Urinary analysis furnishes the most valuable aid in determining the state of the functions of the liver, through the presence or absence of so-called functional albuminuria, of glycosuria, diminished amount of urea, of indican, etc. As to treatment, if the symptoms of such a toxemia show themselves in a patient,

then she should be especially watched at the time that would correspond to her menstrual periods. The urine should be examined. The liver should be examined for tenderness and enlargement and the heart for acute dilatation, as that may occur, with a consequent passive congestion of the liver. It may be that in this way the varicose veins that occur early in pregnancy and which cannot be ascribed to pressure, may be accounted for. The normal enlargement of the thyroid gland should be watched for, as when this does not develop then the toxemia is apt to occur.

The active treatment should consist in the administration of calomel, repeated colonic irrigation, venous saline infusion and the general stimulation of the emunctories. If, in spite of this, the condition becomes progressively worse, if palpation reveals the presence of an enlarged tender liver, if leucin is present in the urine and if the stomach and nervous system show considerable participation in the general derangement, then the uterus should be emptied at once. The author had four cases in one year in which death occurred in spite of the resort to the final extreme measure, and concludes his paper with the advice that a pregnant woman should be seen frequently by her physician, and watched for general symptoms of the overcharging of the blood with toxic material, such as nausea, vomiting, headache, physical and mental lassitude, high arterial tension, alterations in character and disposition. It is not enough that a monthly or bi-monthly examination of the urine be made.

Toxemia of Pregnancy, with Vomiting.—By Ellice McDonald, M. D., *Amer. Journal of Obstetrics*, September, 1905. This paper is an added endorsement of the idea that the grave diseases of pregnancy are due to and accompanied by a functional incapacity of the liver, and that hyperemesis gravidarum and eclampsia have a common origin that is the autointoxication or hepato-toxemia of pregnancy. Eclampsia is now generally recognized as a toxemia whose chief lesion is a degeneration and necrosis, with multiple hemorrhages of the liver. The kidney changes, instead of being primary are of secondary importance.

The three conditions, hyperemesis gravidarum, eclampsia and acute yellow atrophy of the liver, show such a similarity in their clinical manifestations that it is concluded that they are one and the same disease.

Autopsies performed upon patients dying from the toxemias of pregnancy disclose a condition of the liver similar to that of acute yellow atrophy. Changes are found in other organs, but it is claimed that those in the kidney are secondary. Of thirty-five cases of eclampsia that came to autopsy eight were shown to be absolutely free from kidney disease.

The Treatment of Eclampsia.—By Franklin S. Newell, M. D., *Amer. Jour. of Obstetrics*, September, 1905. The writer asserts that eclampsia is a toxemia arising from the absorption of products of fetal metabolism in excess of what the maternal channels of elimination can excrete under normal conditions.

Treatment, to be efficient, must have four distinct objects in view:

1st. Prevention of further absorption of toxins by removal of the cause.

2nd. Limitation of damage by toxins already in the system.

3rd. Elimination of the toxins.

4th. Treatment of the patient.

The first indication is to be fulfilled by immediately emptying the uterus, either by mechanical dilatation or vaginal Cæsarian section. The convulsions are to be controlled by hypodermic injections of morphia, gr. ¼ in combination with hyoscin hydrobromate, gr. 1-100. The morphine may be repeated twice or thrice hourly as may be necessary, and the hyoscin once or twice, according to the condition of the heart. The use of chloroform or ether is advised against, as it interferes with the small supply of oxygen which the patient can inhale at this time. The inhalation of oxygen itself is strongly advised during the convulsion. The irritant action of the toxins on the organs themselves is minimized by the free use of normal saline solution, and this, with the sedative action of the morphine and hyoscin and the hypodermic use of nitroglycerin, should be efficient in relaxing vasomotor spasm and starting excretion. The introduction of two ounces of saturated solution of epsom salts through the stomach tube, if the patient is unable to swallow, if necessary re-enforced by one or two drops of croton oil, will start intestinal elimination. Attempts to produce excretion by the skin by the use of pilocarpin or hot air baths are dangerous, and may result in cardiac exhaustion. If the other measures are used properly, sweating will start up spontaneously when the other organs begin to act.

Eclampsia.—By C. A. Kirkley, M. D., *Amer. Journal of Obstetrics*, September, 1905. This author's views are somewhat at variance with those of the preceding writer, as he begins his paper with the statement that eclampsia may be regarded as a result of autoinfection, its most constant symptom being albuminuria. Further on, however, he practically endorses the view expressed in the two preceding papers in the statement that recent study in the toxemia of pregnancy by Professor Ewing, of Cornell University Medical College, leads him to regard it as the result of functional disease of the liver, resulting finally in hemorrhagic hepatitis or acute yellow atrophy. Hemorrhage occurs in minute spots, and is present in all cases of acute fatal eclampsia at term and in 95 per cent. of all cases of any variety of eclampsia. He also regards as secondary any disease of the kidneys or other organs, because the synthesis of urea is exclusively a function of the liver.

Is Craniotomy on the Living Child Ever Justifiable?—By. J. Marx, *Medical Record*, June 10, 1095. This paper is a timely discussion upon the status of craniotomy on the living child versus Cesarean section, and considering the fact that in expert hands the mortality of the

latter operation is very low, it becomes a difficult question to decide. The author, however, argues as follows: Other things being equal, the religious question always weighing strongly and more often than not absolutely determining the result, the author always favors the mother as compared to the unknown fetus, even in the face of the wonderful results of modern surgery. Only in rare cases can a Cesarean section on a woman many hours in labor after manifold attempts to deliver, with a suffering fetus, be considered more conservative than a skillfully performed craniotomy. The author refers to the religious question as often deciding the question of choice, and it should be known to all who practice obstetrics that the Catholic religion absolutely forbids a craniotomy on the living child under all circumstances. Consequently, when the parent is of that religion, the obstetrician will do well to have the consent of all concerned when he does such a craniotomy.

The writer further holds that the life of the dangerously ill mother is of greater value than that of the suffering and possibly badly maimed child. Craniotomy is absolutely contraindicated in extremely contracted pelves either from bone approximation or through obstruction of a tumor mass.

Craniotomy is indicated on the fetus when it is known to be suffering profoundly, as shown by the physical signs. When the skull and brain have been injured by injudicious forceps traction, it is better to have a dead child than a suffering idiot.

Craniotomy is absolutely indicated in cases of known vital deformity of the fetus, such as huge hydrocephalus and other monsters.

In regards to the mother absolute indications must, of course, always be sacrificed to the wishes of the parents and of the immediate family. If the family wish that no risk for the mother be undertaken, then this is an absolute indication for craniotomy. If the mother's life is in danger from some sudden accident, as pulmonary embolus, accidental hemorrhage, eclampsia, etc., the patient being practically unprepared, Cesarean section is out of the question and craniotomy is absolutely indicated. Likewise, in cases of grave exhaustion on the part of the mother, either in consequence of a prolonged labor, or if she has been subjected to prolonged efforts to deliver her under anesthesia, such a woman is scarcely a subject for Cesarean section.

However, if the child is in good condition or approximately so, and when the mother is not septic and able to stand the shock of such an operation, then if the choice is left to the physician, he should decide upon Cesarean section.

The author concludes his paper with the statement that in spite of all our discussions and inclinations, in nine cases out of ten the question will be settled by the famaliar phrase, "Save my wife, destroy the child."

Prevention of Puerperal Fever.—By B. Crede, M. D., *Centralblatt fur Gynekologie*, Leipsic. The originator of the prophylactic treatment of

opthalmia neonaturum in this paper contends that it is just as important to sterilize the internal genitals after child birth as it is to use the silver solution in the eyes of the new born. He suggests for this purpose collargol, the colloid form of silver, in the shape of a suppository pushed high up into the cervix, the vagina or into the uterus, the vagina being then tamponed with gauze.

Oxytocic Medication.—By G. Keirn, M. D., *Presse Medicale*, Pg. 76, Paris. The author recommends both quinine and sugar as promoting and increasing the muscular contractions of the uterus in labor, and gives preference to the sugar, as it is readily taken and has no disadvantages. It is given in doses af 25 gm. at half hour intervals.

Treatment of Hyperemesis Gravidarum.—By R. von Uhle, *Centralblatt fur Gynekoligie*, Leipsic. In an extreme case of this condition in the third month of pregnancy, vomiting persisted for weeks, even after entire suspension of food or medicine by the month. Finally, interruption of the pregnancy was decided upon, and for the purpose of bringing on abortion, a colpeurynter, moderately filled, was placed in the vagina, making upward pressure upon the anteflexed uterus. The result was the immediate cessation of the vomiting, and by the continued use of it the condition was relieved entirely and the patient went to full term.

This is an exceedingly simple and harmless expedient, and if effectual in some cases should be gladly welcomed by any physician who has a patient suffering with this intractable malady.

The Five Obstetrical Examinations.—By Robert L. Dickinson, M. D., *Brooklyn Med. Jour.*, March, 1905. The writer claims that a woman should be examined at five definite periods during pregnancy labor and the post partum state.

1st. In the second month to make sure of pregnancy, and to determine that no cause exists that might terminate pregnancy, such as retroversion, marked anteflexion, tumors, adhesions, cysts of the cervix or tubal gestation.

2nd. A month before labor, when the patient's general condition should be observed, the heart and kidney action, the breast and nipples examined, pelvic measurements should be made, and the position and presentation of the fetus determined.

3rd. During labor and at its conclusion. Very few practitioners are amiss in their examinations during labor, and a wordof caution in that respect is timely. A great deal of attention is paid to the cleansing of the hands before each examination, but recleansing of the woman's genitalia is often omitted. The woman should be examined at the close of labor, and it is at this time, when all hands are worn out, that one is inclined to shirk his duty. It is at this time that vesical and digital inspection of the perineum will give us points for or against immediate action. "The worse the tear the later the repair," is the writer's maxim. Examination

that determines the damage exactly will often postpone action till anesthesia can be employed, till patient and accoucher have rallied, and particularly until the ragged and distorted anatomy have shrunken to recognizable proportions, so that suture will insure symmetry and normal function.

4th. Two weeks after delivery an examination for retroversion should be made.

5th. Two months after delivery a final examination to determine that all the organs are in a normal condition.

Although the author advises such examinations in all obstetric cases, he admits that the absurdly inadequate fees for such work discourage thoroughness.

PEDIATRICS.

Progress in Pediatrics.—J. H. Hess contributes to the current issue of *Archives of Pediatrics*, a valuable paper on "Intussusception in Infancy and Childhood, with Collection of 1028 Cases, with Statistics." In the symptomatology he lays stress upon the following points:

I. Abdominal pain is the first symptom.

II. Nausea and vomiting occur either simultaneously with the pain or immediately after.

III. Evacuations of the bowels consist first of the normal contents below site of the invagination, but rapidly become changed to the characteristic blood, serum and mucus.

IV. Prostration sudden in development and out of proportion to the other symptoms present, especially when associated with great pain, little fever and a moderate degree or absence of tympanitis, should lead to the suggestion of a possibility of intussusception.

V. Tumor is present in the large majority of cases.

VI. Meteorism is usually late in developing.

VII. Tenesmus is much more frequently present than is meteorism.

VIII. The condition of the abdomen is usually not characteristic.

IX. Fever occurs in about 40 per cent. of cases early in the attack.

SUMMARY OF TREATMENT.

1st. Intussusception demands an early diagnosis and immediate treatment.

2nd. Abstinence from all food. Far more important, purgation must absolutely be prohibited. The question of sedatives in the form of opium, etc., must rest with the physician.

3rd. Irrigation may be tried once or twice under the proper conditions and properly selected cases.

CONDITIONS.

(a) Preparations for immediate laparatomy in case of failure.

(b) Complete anesthesia.

(c) Hot salt solution or plain water may be used under a pressure of

not more than three feet, the fluid being allowed to remain in the bowel not less than ten minutes.

4th. Contraindication to irrigation.

(a) Recurrence after a previous complete or partial reduction.

(b) The very acute and severe types of this disease, which result in early destruction of the bowel wall, but which cases are fortunately not the most frequent type.

(c) Where the signs of beginning gangrene or ulceration, evidenced by subnormal temperature, profound toxemia and other septic symptoms.

(d) Enteric intussusceptions.

5th. Laparotomy should follow failure of irrigation without delay.

(a) Attempted simple reduction from below.

(b) In irreducible cases resection within the bowel in selected cases; or, where this is not feasible, resection with end to end anastomosis should be attempted where the patient's condition makes it practicable, as an artificial anus or simple packing about the bowel requires a secondary and only too frequently fatal operation.

The importance of worms in the etiology of disease has gradually waned since pediatrists have shown that there are several diseases which attack besides the time-honored tripod—teething, worms and phimosis. Undoubtedly the pendulum has swung too far, and not sufficient importance attaches to these conditions at present. The worm is gradually being lifted from its grovelling condition and put in its proper place. The local effects of the various forms of intestinal parasites are responsible for many of the symptoms which are associated with the idea of worms. The thread worm has long been known to produce an anal prurilus which interfered with that undisturbed, dreamless sleep so necessary for the proper development of the child. Perhaps it is not wise to lay too much stress upon such apparently insignificant conditions, but in this day of nervous irritability, nervous prostration, etc., one must appreciate the drain upon a growing organization from this interference with rest. In removing thread worms it is a good plan to repeat the treatment every week for several weeks so that the ova and the immature worms which have not been expelled by the first medication will yield to the succeeding measures.

The round worm is far the most important intestinal parasite in childhood, as it is also more common than the various forms of tenia. It produces many nervous phenomena, such as restless sleep, gritting the teeth, choreiform, epileptiform convulsions, capricious appetite, bad color, etc. Its local effects vary, because it may inhabit the small or large intestine. It crawls out of the esophagus into the trachea and suffocates the child. It enters the eustachian tube and causes earache and otitis. It has blocked up the ductus communis choledochus and jaundice has resulted. It has penetrated into the abdominal cavity through the intes-

tinal wall and produced peritonitis, and it invades the appendix for the benefit of our surgical friends. Occasionally they have massed into a ball which caused obstruction of the bowels, and necessitated a surgical operation.

Recently it has been suggested that worms produce a toxin which is absorbed, and which produces the various systemic symptoms associated with the conception of worms.

Cottanes injected fluid in which ascarides had been grown into guinea pigs, and in every case pathological effects were produced, particularly paralysis of the hind limbs. On the other hand, two French observers, after experimentation, came to the conclusion that extracts of the bodies of intestinal worms were entirely inocuous, and although they admit that in the case of ascarides there is produced some volatile substance with irritating effects, they think that this plays little, if any, part in the production of symptoms, and that the action of intestinal worms as an exciting cause of various symptoms is mainly, if not entirely, mechanical.

In the matter of the treatment of summer complaint nothing radically new has come out. Results in the use of various sera have not been encouraging, and the profession has been driven back to the old standbys—bismuth, etc. Though no advance has been made, the ground already conquered has been more thoroughly understood. The indications for diet, antiseptics, astringents, etc., are more clearly differentiated, and the results in treatment have been more satisfactory.

As to the diet, the entire withdrawal of milk is most important, and semi-starvation for twenty-four hours by substituting an innutritious broth or barley water usually relieves the acute attack. Barley water should be employed when the stools are offensive and show putrefaction of proteid substances. If the stools are sour and acid and fermented, then an albuminosis food, such as white of egg, should be substituted. When the stools are perfectly normal a gradual return to a milk diet may be attempted.

In the matter of antiseptics and astringents, the bismuth salts still retain their hold. There is, however, a refinement in the use of the different salts of bismuth which is not generally observed. Bismuth salts are decomposed in the intestines, liberating the acid radical, which exerts its special action. Thus bismuth subnitrate forms nascent nitric acid, which is a most powerful antiseptic and germicide. It is easily the most antiseptic, and should be employed in cases where the stools are very foul, and the bacterial infection is evidently virulent. Bismuth salicylate is, of course, antiseptic, but the salicylic ion is injurious to the kidneys in certain cases, and it is inferior to the subnitrate in germicidal qualities. The English use the subcarbonate almost to the exclusion of the other salts, but it is of less value because the carbonic acid exerts no antiseptic influence.

If the diarrhea has changed from the fetid state to a simple watery and slimy character, then the astringent property of the subgallate makes it the salt of choice.

The proper exploitation of opium in such cases is a criterion of the therapeutic skill of the physician. There has been a tendency in late years to leave off the use of opium. The trend of professional practice has been to consider opium as dangerous. But when properly handled it accomplishes results that are not attainable by any other drug. No drug will quiet peristalsis except opium. In inflammatory conditions in the mucosa and submucosa, where rest is the *sine qua non*, no other drug can secure the perfect muscular rest that opium will give. But if there is septic matter in the intestine, it is obviously unwarrantable to lock it up where absorption can take place. When toxic material has been thoroughly eliminated there can be no injury from quieting the bowels, and giving the patient a much needed rest. When the bowels are moving twenty to thirty times per day the exhaustion is great, and no child or even adult can stand such a drain very long at a time. It is in such cases that we can secure good results by the administration of opium, always bearing in mind that when the bowels are being checked there must not be any return of the putrefactive odor or of the fever. We can recognize the septic condition only by these symptoms.

Caloric washing will always hold its place, but the tendency is towards less interference in that way. Such measures will exhaust the strength of the child, and the art of medicine must decide when the good to be accomplished will outweigh the evil effects.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE MEDICAL AND SURGICAL SOCIETY, SEPT. 18, 1905.

DR. HENDON: I have three specimens here that I feel like apologizing to the Society for introducing, the subject is such an old one, but there are two of these that carry with them particular interest because they are two illustrations of a type of appendicitis. One of them illustrates the mildest degree of this class of cases. The other will illustrate the most severe.

The first I show you is one that illustrates the virulent type of the ruptured appendix. This, I suppose, might be termed an appendicus giganticus, and was removed on last Friday. The history of the case is very brief. The patient was a man 62 years of age, and I suppose you

all know who it is. I saw him on Thursday afternoon about 2 o'clock; he was suffering the most agonizing pain. He insisted that he had frequently had similar attacks, and all that he needed was something to relieve the pain and he would get over it all right. So I administered a hypodermic of morphine, a half grain, to control the pain. He had vomited once. His pulse was 60, and the surface was cold and clammy with sweat. I saw the man in two or three hours and he was easy. I saw him the following morning and the pain had almost disappeared, but tenderness was localized at McBurney's point, and I was convinced of the nature of the trouble and advised an immediate operation. The man was removed to St. Joseph's Infirmary and operated on as soon as possible. At the operation it was found that the organ had entirely sloughed away from the cecum, leaving a hole in the cecum as large as my thumb; the appendix contained six enteroliths; three of them were loose in the cavity, and the others were in the lumen of the appendix. The abdomen was filled with a thin, sanious kind of liquid; there was no yellow pus and no protecting walls of adhesions; in fact, no adhesions at all. The appendix was floating free in the cavity, and was much larger than you see it now.

This man went along well for fourteen or sixteen hours. He was operated on at 2 o'clock Friday. On Saturday morning when I saw him his pulse was 96, he was good and warm, and presented some prospects of recovery. Two hours later I saw him and his pulse had gone to 116. He was regurgitating a thin, brown material that is the precursor of calamity. He went from bad to worse until Sunday morning, when he died.

One peculiar thing about the closing scene was that about fifteen minutes before death this patient had a most enormous action from the bowels; he passed a large quantity of gas. Up to that time had had obstipation; the abdomen was distended.

That is probably one of the most virulent types of the disease that you will ever have the opportunity to witness. He gave the history of having had attacks for seventeen years. He had suffered pain in the right iliac fossa for several days, and attributed it to rheumatism, and had never consulted any physician at all.

This other specimen that I have was removed from a young man who was taken sick on Saturday about 12 o'clock. I saw him, and he had some pain and vomiting. His bowels had moved freely. His temperature was normal and pulse 90. Then I saw him again at 7 o'clock. At 5 o'clock he had had a chill, and his temperature had gone up to 103° and his pulse up to 120. I advised an operation, but he would not accept the advice. The next morning I saw him and his temperature was normal and pulse normal. I had him removed to Gray-street Infirmary. After getting there all the symptoms subsided except tenderness elicited on firm pressure; he had no pain, no nausea, no constipation, belly flat, sleeping well and appetite good. On Wednesday he was operated on, the appendix was

removed and found ruptured or perforated right at the mesenteric border; you can see the ulcer there; you can see the perforation right near the mesenteric border. That illustrates a point as to how mild an appendicitis with a perforation can be. There is a man that had this perforation on Saturday night, and on Sunday morning the symptoms had cleared up, and by Monday morning he had no pain and no symptoms at all except pain on deep and firm pressure, and yet had a hole as big as that in the appendix vermiformis. This illustrates the kind of rupture or the two classes of symptoms that accompany these two classes of cases, and each one of these cases stands at the two extremes. Here is the mildest and here the most virulent type that we can imagine.

The other simply shows the small size of the appendix, and was removed from a case of femoral hernia where there was nothing in the sac at all except the appendix and serum. The tumor was as big as a hen's egg.

I had never noticed a report on a similar case, though Kelly pictures the condition very beautifully in his new book on appendicitis.

DR. DAVIDSON: I would like to ask the doctor what treatment he used in the virulent case of appendicitis. How did he treat the peritonitis?

DR. J. R. WATHEN: I am sorry I did not hear the whole report. These are interesting cases. Appendicitis is a subject that I believe is little understood to-day, even with all the vast amount of data collected clinically, and in this connection I would like to report, as illustrating the peculiarities of this disease, a case that I saw two weeks ago. It was a peculiar case, and I have never seen in the literature one like it. This man, ten days before I saw him, was taken with colic one night. It was not severe, and he took a drink of whiskey and it passed off. The next day and for several days afterward he had an uneasiness in the region of the appendix, and when I saw him ten days later he presented a large tumor pushing out the abdominal wall. His pulse was under 100 and he had practically no temperature at all—not over 100°.

I operated upon him and took out a gangrenous appendix that had sloughed off at the gut, and let out a quart of pus by actual measure. This without temperature and pain, two of the most cardinal symptoms of appendicitis.

DR. SPEIDEL: I would like to ask the doctor whether he made a diagnosis in the first case at the first visit. The recognized treatment then would be to use gastric lavage first and then give morphine, if necessary. After the gastric lavage the pain is usually relieved; if not, then it can be relieved with morphine.

DR. GOSSETT: Did the appendix rupture at the house before removing the patient to the infirmary? When a surgeon is called to the country the patient is not moved to an infirmary, but is operated on at his residence, and I wonder in these bad cases if we do not do the patient harm

in taking time to remove him to an infirmary. Would it not be better to operate on him immediately?

DR. HIBBITT: I would like to ask the doctor two questions, if he flushed the abdomen in the first case and used drainage, and if he used drainage in the second case?

DR. HENDON (*closing*): Two of these cases reported recovered without any trouble, the other did not. Now, in regard to Dr. Speidel's question concerning gastric lavage, I am a convert decidedly to that method of therapy, but I have found that it is one of the most difficult things in the world to apply. Patients will have prejudices so strong that the moment you approach them with the stomach tube they will begin to resist and even bite the tube; that thing happened in the first case I speak of. Lavage is the ideal thing to do, no doubt, and a strong effort should always be made in that direction. Where patients are clamoring for relief and even screaming with pain, we have got to give the morphine; there is no way of getting around it. It is nice for us as a scientific body to sit here and discuss the subject from the standpoint of scientific aids to diagnosis, but when we begin to apply them we are confronted with a different proposition.

As to the advisability of removing these patients to an infirmary, that is a question in which there is as much argument on one side as on the other. The temptation to move them is so strong that you can hardly resist it. Where they have to be moved but a short distance, where the surroundings and everything is convenient, the temptation to move them is so great that few will resist it.

In regard to Dr. Wathen's report of case, it was certainly a striking one, but Dr. Wathen will admit that nature had built up protecting walls and adhesions that circumscribed the pus; that determines the destiny.

In answer to Dr. Hibbitt's question, my experience is that it is best to guard against extensive manipulations inside of the abdomen. What I have seen on that point has convinced me that the less you do that is consistent with thoroughness, the more people you will save. The idea of eviceration does not appeal to me, and the cases that I have seen eviscerated and flushed have not done well.

The technique employed in the case of specimen No. 1 was to make a free incision and pick up the appendix, which was easily found; it presented almost in the wound. As much of the virulent contents of the abdomen as possible was mopped out with gauze pads and dry sponges. When we have pus and it is limited by walls of adhesions, it is best to open the abscess and get it out as soon as possible.

This case was drained. The gauze was disposed so as to reach the fossa in the abdominal cavity where the pus was likely to gravitate, and the drainage was all that could be desired. The dressings were changed three or four times and the gauze was saturated.

Dr. Speidel, I recognized it on my first visit.

DISCUSSION ON DR. TAYLOR'S PAPER.

Dr. Adolph O. Pfingst: The essayist has presented a subject which should interest all of us because it treats of a serious condition. Those of us who see many cases of trachoma know that oftentimes they resist all forms of treatment, consequently anything new in a therapeutic way should be received with favor. It will not take me long to give my personal experience with jequirity. While I have seen the drug applied I have never made use of it in my own practice. I am free to confess, however, that I have been more or less prejudiced against it—a prejudice which existed in clinics where I received my ophthalmic training. Some of the older oculists of this country have acquired this prejudice against the use of jequirity on account of the loss of several eyes following its use. Literature cites a number of cases where jequirity has destroyed the eye instead of bringing about the desired result. The use of the drug is so seldom referred to in modern ophthalmic literature that I had gained the impression that its use had largely been abandoned. Dr. Cheatham, of this city, who has always been one of the most ardent advocates of jequirity, and who is looked upon as an authority on this treatment, still employs it in cases that have gone to the stage of pannus formation. In a recent conversation with him he informed me that he uses it less frequently than formerly simply because trachoma is not seen in its advanced stages as frequently as formerly, since the disease is more frequently recognized and properly treated. I was surprised to learn that Dr. Taylor employs the remedy in the acute stage and the granular stage of the disease before the cornea has become vascular, as I had only seen it used when the cornea had become opaque with blood vessels, causing blindness. Jequirity is used in such cases to clear up the cornea and restore vision. As far as I know, the text books recommend it only in this stage. In the granular stage, or after granulations have formed on the lids, I have been in the habit of using Knapp's roller forceps, and following this up with the application of sulphate of copper. When this is done we usually get a marked effect without subjecting the patient to the severe reaction of the jequirity treatment. However, I will keep the treatment in mind, and if time shows it to be more satisfactory than the expression treatment I will be glad to adopt it. I feel sure that I will use the treatment in the next stubborn pannus which I encounter. A point of interest in connection with the jequirity treatment which the essayist has not alluded to is the accidental discovery of the value of the drug. It was found that a case of trachoma, with pannus, which was accidentally infected with gonorrheal pus, improved rapidly after the acute symptoms of the gonorrheal infection subsided. After this cases were treated by inoculation with gonorrheal pus. Finally, jequirity was substituted, as it was found to be equally irritating, and it did away with the obnoxious feature of the pus. Recently a patient whom I was treating for pannus employed Jamaica rum of his own accord with similar results. This leads

me to believe that the good which comes from the jequirity is due to its irritating effects.

DR. MORRIS: I admire Dr. Taylor for his boldness. I have seen it used in a number of cases, but have never used it myself, looking upon it as firing a brush heap which I might not be able to control. I would not think of using it in acute cases. Jequirity is a remedy that produces a severe irritation, owing to its fermentative action. There is not a germ in it. As Dr. Pfingst has said, it produces its effect through its irritating property. I would not inoculate both eyes because of the reasons mentioned. Fuchs, who is a mighty good authority, makes the positive statement that it should not be used except where the cornea is vascularized. I would prefer the sulphate of copper, mitigated stick or other irritants which I could control.

DR. WITHERSPOON: Mr. President, some of the gentlemen seem to think that Dr. Taylor has been exaggerating his results from the use of this remedy, and I am going to tell of what I have seen of his cases treated in this way. I have been fortunate enough to have been situated so that I could observe these cases, and Dr. Taylor has never had any trouble that he could not handle without any uneasiness at all; in fact, in these cases, the inflammation can be handled without any trouble whatever. He used it in cases that not only had pannus, but in those that never had a chance to have pannus, with clear cornea, and I have seen no trouble at all. He has been using this to my knowledge for three and a half years. I have never paid particular attention to it from his standpoint because I am not looking up eye business, but I know personally that he has never had any loss of eyes or any difficulty.

DR. TAYLOR (*closing*): I will not take up a great deal of time in closing. You will find that the writers of fifty years ago spoke of the application of jequirity as an inoculation. It was supposed that when it was put into the eye it would produce an infection which caused an absorption of the plastic material. Whenever we have a granular condition of the lid before it has become cicatricial jequirity will do more good than in the older or chronic cases. It will destroy the abnormal tissue, but will not affect the normal. It is beneficial in pannus, and may be used in cases where there is no pannus. It will relieve the increased vascular condition of the cornea and the exudate of material into the cornea, and it will relieve the condition in the lid.

As to the loss of the eyes from the use of this remedy, I always examine for ulceration of the cornea, and if ulceration is present I never use it, and I would not use it under any consideration where there is an abrasion of the corneal substance proper. In the case of the man I showed tonight the cornea was normal, although he had chronic trachoma. The lashes touched the globe and they were removed. On the surface of the lids you saw the membrane intact, yet the cornea is still clear, showing that it would not produce loss of the eye unless complicated by ulcera-

tion or an abrasion down to the substance proper of the cornea. The granular conditions still existed in the lids, and I continued its use without any injurious effect on the cornea and with good effect on the granulations of the lids.

I mentioned that I never used jequirity on the granulations without previously crushing them with my thumb or Knapp's rollers. The jequirity will produce destruction of the diseased tissue with less destruction of the normal tissue than by the application of bluestone or the nitrate of silver, and will relieve the patient of the granulations much quicker. The escharotics produce injurious effects on the cornea. By the use of bluestone or nitrate of silver we produce a destruction of the normal epithelial tissue. Jequirity can be used in any stage of the disease, whether acute or chronic. It is always well to relieve the deformity of the lids before the application of the remedy.

As to the inoculation of both eyes the treatment is not so prolonged, and the pain in both eyes is not much greater than when one eye alone is inoculated. It will require the use of opiates in either case, and when both eyes are inoculated it will only take a little more opiate. There is no inoculation from one eye into the other. The danger to be guarded against is the swelling. The swelling is more intense in women than in men. A patient was sent to me from Indiana. I inoculated both eyes, and it was ten days before she could open her eyes. The swelling extended down to the clavicle, and even below that. She had pannus. I operated on the lids three weeks previous. When she got her eyes open the vascular condition of the cornea was much improved and the pannus had disappeared. I re-inoculated the eyes and inoculated them ten times. You will find that in repeated inoculations the inflammation and the membrane is less. The application of jequirity will cause absorption because it produces inflammation. If this is kept up for six weeks the the absorption will relieve the condition.

As a rule we do not have pannus unless we have granular lids. If we get rid of the granular lid nature will take care of the pannus. It would be useless to clear up the cornea and not relieve the cause. The effect produced by jequirity on the upper lid is identical with that produced on the cornea.

We control the inflammation by application of heat. In the earlier stages by the application of ice. I do not want to control it entirely where the lids are thick. I have never had one that resulted in the loss of an eye, and I do not believe that any one who will take the precaution not to use it in an ulcerated cornea will have any trouble, because the case shown to-night demonstrates that it does not affect the normal cornea at all.

REPORT OF CASE.

DR. DAVIDSON: I want to report a case that illustrates the fact that sometimes we save a life by holding off an operation for twelve hours. I was called in to see a man the other night who was suffering severe pain in the epigastric region; it was a colicky pain; he vomited freely; bowels had moved a few hours before this pain came on; we gave him enemata—turpentine enemata and soapsuds and warm water; we got him to vomit freely by warm salt solution given by the stomach—a kind of lavage of the stomach without the stomach tube. We gave, to relieve the pain, a quarter of a grain of morphine hypodermatically. When I called to see him the next morning he was still suffering some pain, though he had had some rest from the morphine. We did not succeed in getting a movement from the bowels, although we gave him several turpentine enemata. That afternoon I called again, and the man's wife said that he was suffering more and more. I called in a consultant, a medical man or general practitioner, and we examined the case again, and decided that the man ought to go to an infirmary immediately. We thought at the time that he had a beginning peritonitis; his abdomen was much swollen, he had hurried respiration, pulse becoming more rapid, temperature going up; it was subnormal that morning. We thought possibly it was a perforation of an ulcer of the duodenum. We took him to the infirmary and had him examined by a surgeon, and we three agreed that he had a beginning peritonitis. The surgeon said that if he had a general peritonstis and we opened up his belly it would kill him. We decided to give him morphine and watch him. We gave him half a grain, and the next morning all of the symptoms had disappeared and the man was well. He had no pain, and all the evidences of peritonitis had disappeared; the vomiting had ceased, temperature normal, pulse almost normal and respirations normal. The next morning he went home, and he is all right now. The night before three of us decided that the only thing to do would be to open him up, and we waited a few hours before opening up.

DR. HENDON: I would just like to suggest to Dr. Davidson that he should keep his eye on that patient. It will only be a short time until that fellow will send for him again. The next time do not wait till he gets over it. It has been my experience that conditions of that sort will recur, and this man will in the end come out bad unless some surgery is done.

DR. DAVIDSON: What do you think that was?

DR. HENDON: He had a duodenitis or passed a gall stone.

PROCEEDINGS OF THE ACADEMY OF MEDICINE, SEPTEMBER 6, 1905.

Dr. Simrall Anderson: I have a patient whom I desire to bring to the attention of the Society to-night. This man was injured in an elevator accident. His head was caught between the floor of the elevator and the ceiling. This triangular piece of bone was torn loose from its bony attachment; it measures four by five inches, the base of the triangle being frontal bone, including orbital process, apex terminating in the parietal.

The man did not lose consciousness until after he was put under the influence of an anesthetic, but he was almost pulseless at the wrist. I never saw so much hemorrhage in my life; it ran out like water running from a faucet. After removing the bone and suturing the dura as well as possible, hemorrhage was controlled by pressure from gauze packing which I left in for four or five days. This man has made a good recovery, which I look upon as remarkable.

I have here 157 gall stones, which were removed fifteen days ago from a woman 52 years of age. She gave a history of having passed gall stones on several previous occasions, but never had jaundice. The stones in the gall blader were removed, and it was then found necessary so split the duct, which was enormously distended, and remove stones, which it also contained, then placed a drain in the gall bladder and another on the outside against the duct. The woman has gone along very nicely, and is making an excellent recovery.

Dr. Kellar: I have here a young man who has been giving Dr. Moren and myself a great deal of trouble, especially during the past four or five months. On the 28th of December last I was called to this young man's house, and found him with a temperature of 105°, his knee swollen considerably and pain in the right hip. I made diagnosis of inflammatory rheumatism. This ran along for eleven weeks, and at no time was there any complication of the heart. At the end of eleven weeks he was able to hobble about, and from that time on he came to my office for treatment. The electric treatment was tried for awhile, and he went to Martinsville and stayed four weeks, and when he came back he complained of pain in the instep of his foot, and from there it went to the heel. When he steps on it pain is produced. There was some diminution of the size of the right leg, which, however, under the electrical treatment administered by Dr. Moren, has filled out somewhat. Finally, we put a brace under the arch of his foot to support it, and that seemed to afford him a great deal of relief. Also by putting weights on at nights and stretching the sciatic nerve was relief obtained. What puzzled Dr. Moren and myself was why this pain should be in the heel. I would like to have some suggestions from members of the Society as to what may be done for his relief.

When he steps on this foot the pain causes him to limp. When he

recovered from the attack of rheumatism he was unable to go about without the use of canes. He has, however, picked up in flesh considerably. Dr. Moren will give you his opiniou of the patient, and tell you what he has done for him.

DR. MOREN: I gave this young man electricity and encouraged him to walk, but the treatment which seemed to do him the most good was supporting the arch of his foot and straightening the heel. When he came to me he had a very thick sole and a very thin heel. The first thing I did was to straighteu the heel and support the arch of his foot and then I gave him electricity, and he has improved a great deal. Whether it was due to the electricity or supporting the arch is a question, but I am rather inclined to believe that supporting the arch of his foot helped him to a great extent.

I hardly know what diagnosis to make. It is not neuritis. I have been encouraging him to walk, and even to follow some light occupation.

DR. BOGGESS: I have not examined the patient, but from what Drs. Kellar and Moren have said I am inclined to believe that the relief obtained was due largely to supporting the arch of the foot. It is wonderful to note the amount of disability and pain which may follow sagging of the arch of the foot. Iu the last two or three months I have had several patients of this character. One of them had been treated for rheumatism for a number of years, when the fault lay very perceptibly in the arch of the foot, and by restoring it the patient has gotten entirely well.

It is my practice to use a pad fairly high in the beginning, and to raise it from time to time uutil it is much larger and higher than is generally used. I believe that by watching this patient carefully and raising the arch from time to time, encouraging the use of the foot, he ought to get all right.

DR. DUNCAN: I desire to call attention to the fact that inflammatory affection of the hip joint may frequently be characterized by pain. As far as the pain in the knee is concerned, there may be pain in both joints where only the hip joint is involved.

DR. BULLITT: I have not examined the patient carefully, but I must take exception to some of the remarks made about supporting the arch of the foot. I believe we are apt, unintentionally, to do a great deal of harm to the feet by supporting them improperly instead of doing them an intended good. It is exactly the same proposition as attempting to strengthen a young girl's back by the application of a brace, when the proper way to strengthen it is to develop the muscular structure; and the way to develop the arch of the foot is to strengthen the muscular structure.

When the anatomical coustruction of the foot is considered, it will be remembered that the arch of the foot is dependent for support upon the soft structures, and a high support under this arch would tend to weaken the supporting structures rather than to strengthen them. I

would rather attempt to shift the weight of the patient's body to the outer side, and this can be accomplished much better by raising the inside sole of the shoe than by putting a support underneath the foot.

DR. SHERRILL: I did not examine the patient carefully, but it appears to me that a very important factor has been overlooked. One of the patient's limbs is much smaller than the other, which shows a diminution in development, either from non-use or from something that occurred while he was sick. The patient really deserved more attention than was given him.

The point brought out by Dr. Bullitt should be emphasized. In trying to build up the foot by putting braces under the arch we overlook nature's methods of getting a permanent recovery. In the case of a young child, in which the process had not gone on for any great length of time, I obtained splendid results by simply raising the heel and turning the foot out slightly by raising the inside of the edge of the shoe. Instead of the weight being carried on the arch, by raising the heel it was thrown forward. This will also tend to strengthen the muscles, and a much better foot may be obtained than by other methods. After the condition has gone beyond the point where nature can do anything, then, and then only, is it advisable to put a brace under the arch of the foot.

BOOK REVIEWS.

Manual of Diseases of the Eye for Students and General Practitioners.—By Chas. H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department Columbia University, New York, 1890–1903; Ophthalmic Surgeon to the City Hospital, Randall's Island, New York; Consulting Surgeon-Ophthalmologist to the French Hospital and to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, New York, etc. Fourth Edition Revised, with 360 Original Illustrations, including 21 plates, with 60 colored figures. New York: Wm. Wood & Co., 1905.

May's Manual has been published in Germany, Italy, England and America, and the present is the fourth edition since August, 1900. That alone speaks in its favor. It is only claimed as a student's and general practitioner's manual, and as ably fills that office as any other book we know on any subject. It is almost universally adopted as the student's book on the eye, and certainly now has our recommendation. Its moderate price places double its value in the hands of its purchaser.

Practical Medical Series of Year Books.—General Medicine, Vol. I. Edited by Frank Billings, M. S., M. D., Head of Medical Department and Dean of the Medical Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M. D., Professor of Medicine, Chicago Clinical School. Series 1905. Chicago: The Year Book Publishers, 40 Dearborn street.

Dr. Billings expresses this volume's purpose in saying, "A review of

the best literature of medicine of the year,'' and his name lends assurance of its goodness. The most recent and up-to-date ideas as to cause, prevailing theories of same, pathology, treatment, etc., are all given, making the little volume a text instead of just an abstracted yearly review of all articles on general medicine published for that year. The sale of this series should be snfficiently large to profit the publishers a large reward, and thereby encourage this work and insure its indefinite existence. It is about as valuable an aid to the practitioner and specialist that exists, as it makes an appendix to the best of texts.

Manual of Serum Diagnosis.—By Dr. D. O. Rostoski, University of Wurtemburg. Authorized Translation by Dr. Chas. Boldnan. First Edition. First Thousand. NewYork: John Wiley & Sons; London: Chapman & Hall, Ltd., 1904.

This excellent Mannal of Serum Diagnosis is an up-to-date text on the serum diagnosis of typhoid and paratyphoid, tuberculosis, agglutidation in other diseases, as plague, cholera, dysentery, glanders, etc., the precipitins and other reactions. There is an appendix on the Gruber-Widal reaction that is especially interesting and of value. This little volume is probably the only work published limiting itself to serum diagnosis, and the matter therein contained is thoroughly reliable, which Rostoski's name guarantees. We recommend it to all who take the least interest in the diseases that serum reactions may figure in their diagnoses of such diseases.

Hare's Practical Therapeutics.—A Text Book of Practical Therapeutics; With Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By Hobart Armory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin and Barton C. Hirst. New (10th) edition, much enlarged, thoroughly revised and largely rewritten. Octavo, 908 pages, with 113 engravings and four full-page colored plates. Cloth, $4.00 net; leather, $3.00, net; half morocco, $5.50 net. Philadelphia and New York: Lea Brothers & Co., Publishers, 1904.

The fact of this book having reached its tenth edition since 1890 is sufficient evidence of the estimate placed upon it by the medical public, and, upon reviewing it, we find it a practical work of the highest standard, and one suited alike to the needs of student and practitioner. The arrangement of the text greatly facilitates study.

The most commendable feature is the graphic manner in which the author deals with the subject, which enables the searcher to gain a knowledge of the drug and its uses without sifting over a mass of theory.

G. B. J.

Practical Pediatrics.—A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr. E. Graetzer, Editor of the *Centralblatt Fur Kinderheilkunde* and the *Excerpta Medica*. Authorized Translation, with numerous Additions and Notes. By Herman B. Sheffield, M. D., Instructor in Diseases of Children, and Attending Pediatrist (O. P. D.) New York Post Graduate Medical School and Hospital; Visiting Pediatrist to the Metropolitan Hospital and Dispensary, etc. Pages XII-544. Crown Octavo. Flexible Cloth, Round Corners. Price, $3.00 net. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry street.

This eminently practical volume in every way meets a need long felt,

that of a reference book that, whilst containing all the essentials of pediatrics, still is not unduly voluminous. The author has evidently had an extended clinical experience, and has in a few words given us the benefit of his observations, and we can recommend the book to all seekers for literature on this important branch. G. B. J.

Harrington's Practical Hygiene.—A Treatise on Hygiene and Sanitation. For Students Practioners, Health Officers, etc. By Charles Harrington, M. D., Assistant Professor of Hygiene in Harvard University Medical School, Boston. New (third) edition, thoroughly revised. In one octavo volume of 793 pages, with 118 engravings and 12 plates. Cloth, $4.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Harrington's Practical Hygiene supplies an exhaustive, comprehensive, and useful text on a subject of vital importance to community or nation. More progress and greater strides have been made toward health recently or ever by preventive methods than by the eradication of disease already extant. One of the many great values of this book is its chapter on infection, susceptibility, and immunity, which will be found by those who read it, and are not already so fortunate to possess a style and interest rarely equalled. The fact of the selection of Harrington as reference in the majority of text-books on hygiene attests the originality and value as an authority. As physicians are constantly called upon to pass opinion as to the sanitary condition of the home, we feel we can recommend this book to all physicians who will find all of their wants advanced therein.

A Nurses' Guide for the Operating Room.—Second edition. Enlarged and revised. By Nicholas Senn, M. D., Ph. D., LL. D., C. M., Professor Surgery Rush Medical College; Surgeon-in-Chief St. Joseph's Hospital; Attending Surgeon to the Presbyterian Hospital; Professorial Lecturer on Military Surgery, University of Chicago; Chief of the Operating Staff with the Army in the Field during the Spanish-American War; Surgeon-General of the State of Illinois. Published under the direction of the Sisters of Charity, St. Joseph's Hospital, 360 Garfield Avenue, Chicago. W. T. Keene & Co., 90 Wabash Avenue, Chicago, Ills.

We find Senn's Nurses' Guide a most valuable book of 200 pages, embracing all of the general rules, emergency methods, practical nursing methods, and, in fact, all that can bear upon the subject of surgical nursing. It is stated in a convenient, clear way, though not too brief to be consistent with its completeness. It is already well known and should be in the hands of all surgical nurses. With this work a nurse can well prepare for any operation, dressing, or procedure. It contains the important formulæ of solutions in use, is illustrated, and has an ample index.

My Own Story.—An account of the conditions in Kentucky leading to the assassination of Wm. Goebel and my indictment and conviction on the charge of complicity in his murder. By Caleb Powers. Illustrated from photographs. The Bobbs-Merrill Co., Indianapolis, Publishers.

This is an interesting story of the life of Caleb Powers, whose name is well known to all, and includes the many happenings incident to the killing of Wm. Goebel. It contains many facts, is full of interest, and seems conservatively written, despite the intense feeling that might be

expected under such or similar circumstances. The book has had quite a large sale even outside of the State of Kentucky.

Diseases of the Kidney, Diseases of the Skin, and Hemorrhagic Diseases.—By Drs. H. Senator and M. Litten, of Berlin. Edited, with additions, by James B. Herrick, M. D., Professor of Medicine in Rush Medical College, Chicago. Octavo of 916 pages, illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.00 net; Half Morocco, $6.00 net.

With the appearance of this, the eleventh volume of Saunders' American edition of Nothnagel's Practice, the work nears completion, the final volume on the Heart being now in active preparation. Like the others, this volume can be taken as the acme of knowledge on the subjects embraced. Prof. Senator's clear style, systematic arrangement of facts, and logical reasoning make his articles on the kidney indispensible to the practitioner. The editor, Dr. Herrick, has enlarged on certain points whenever necessary, especially regarding treatment, diagnosis, urinary analysis, etc., so as to increase the value of the work to the general practitioner. He has also added articles on cryoscopy and phloridzin glycosuria.

The sections on the spleen and the hemorrhagic diseases were written by Prof. Litten, whose pioneer work in these fields is widely known. The articles on the mosquito and its relation to malaria, on splenic anemia, on congenital icterus with splenomegaly, and on the X-rays in the treatment of leukemia have been brought down to date by the editor. Indeed, the editor's interpolations add greatly to the practical value of the volume, and we are sure such an authoritative work on these subjects has never before been published. We heartily recommend this book as complete and exhaustive. Such points one must consider when procuring a reference book.

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them: and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downwright facts at present more than anything else." —RUSKIN.

Original Communications.

ARTERIO SCLEROSIS.

DR. M. M. PEARSON, M. D.,
BRISTOL, TENN.

IN the past few years there has been a growing interest in the subject of arterio sclerosis, but in the last in particular much study and work along original lines has been done. In this field men such as Welch, Billings, Cabot, Dock, Anders, Thayer, Osler, and a host of others, have contributed from recent studies. See papers by above A. M. A., 1904. Symposium on arterio sclerosis.

Probably the profession, as a class, is not impressed with the frequency nor importance of this disease. Often when we recognize it we treat it indifferently. But as a rule we entirely overlook it, not that we are ignorant of the points of diagnosis, but fail in our regard for them. We listen, but do not feel and look. The ear is trusted to the neglect of the eye and the hand. We forget that the sense of touch and sight are most valuable faculties, often giving us the most and only data, the easiest to cultivate, but the most neglected. Every one who has watched Dr. Osler in his work could not help being impressed with the importance given to inspection. I have heard him repeatedly say that many a doctor misses a diagnosis by not having a good light in his examination room and using it. That the diagnosis was there before them, and all they had to do was to look.

In the routine of physical examination we devote all our time to listening to the heart and lungs. The profession and the laity assign to these an only and invariable fatality. We believe that death sooner or later will come to us through one of these organs, and when convinced that they are healthy a long and safe journey is predicted. But never

to the laity, as we can understand, and but rarely to the doctor, as we cannot understand, does the possibility of the "Grim Monster" approaching us through the vascular system disturb us in the least But "longevity is a vascular question," as Dr. Osler puts it, "and death to most men comes primarily or secondarily through this portal." This statement, to me, sounds a little unreasonable, and I cannot say that I believe it, but the real cause of this incredulity may be attributed to ignorance of the far-reaching possibilities of the vascular system; at least for the present I am inclined to attribute it to that. I am weakened in my conviction the more I investigate it, but my knowledge will have to be considerably advanced before I can accept it without a degree of skepticism. We should not be misled to believe that arterio sclerosis is the only disease of the vascular system that makes probable this conclusion, but certainly the most important, and therefore demands our most earnest study.

Arterio sclerosis is a local thickening of the arterial wall, caused by fibrous ingrowth which begins in the intima, but secondary to a change in the media. In the larger arteries this leads to what is known as atheroma and endarteritis deformans. The term atheroma is applicable only to the late changes in the aorta and its larger branches and not synonymous with arterio sclerosis, but by many used interchangeably.

The generally accepted view among pathologists at this time, and since the brilliant work of Thoma, is that the primary change is in the media. As to the nature of this change opinions have differed, and there has been much speculation. It seems probable from recent studies by Dmitrijeff that it is a granular disintegration of the elastic fibers of the middle coat. In order to understand this change and subsequent phenomena, certain facts in histology and physiology are necessary.

The greater strength and toughness of the artery is confined to the adventitia or external coat, which possesses feeble elastic properties. On the other hand, the elastic properties are confined to the middle coat. The reason for these properties are not far to seek. The external coat is made up largely of areolar tissue, which is tough, but not elastic, mingled with a thin network of elastic fibers. But the middle coat is made up of elastic and muscular fibers, with a small proportion of areolar tissue. In the middle coat the elastic tissue largely predominates, and the muscular tissue is in a state of what the physiologists call "moderate tonic contraction." This combination gives to the artery its elastic and contractile properties, and this adapts the vessel to the blood supply, maintains blood pressure, forces on the blood during the diastole of the heart, and maintains a constant instead of an intermittent flow through the capillaries and veins.

In studying the pathology of this interesting disease, the work of Thoma is of first importance, and without which our knowledge would be very imperfect. His studies are found in all recent works on pa-

thology more or less in detail, and mentioned by most works on clinical medicine in brief. But the best arranged synopsis of his work is given in the *Am. Jour. of the Med. Sci.* for May of this year, the subject of this article being "Observations on Aneurisms and Arterio Sclerosis," by Camac. This I shall follow in brief.

After giving a brief history of aneurism, which Dr. Camac arranges in chronological order by charts, beginning with the epoch of ancient medicine 1500 years B. C., he brings it up to our time, or, as he says, "When observation, upon the vessels were more specific." This was 1834, now fifty-one years ago, when Lobstein for the first time used the term arterio sclerosis, but by him understood to be due to a nutritive process in the vessel walls incident to age and use, a conception not altogether at variance with modern views. But to Gull and Sutton is due the conception of arterio sclerosis as an independent disease, however, under the name arterio capillary fibrosis.

As interesting as I consider them to be, it is unimportant for the object before me to go into all the theories that have been advanced even since the epoch of modern medicine. But certain of the more important will be mentioned as an introduction necessary to a study of the accepted views of today.

The first theory, and that of Lobstein, Haller, Scarpa and others of that time, was that of inflammation. This was opposed by the so-called humero-pathological doctrine of Rokitansky, the hypothesis of which was that a material detrimental to the artery wall was deposited from the blood. As opposed to the latter theory was that of "interrupted nutrition" of tissue formation offered by Resse. Virchow overthrew the theory of Rokitansky, and endeavored to explain the degeneration by the ordinary process of inflammation. But much confusion arose in explaining such phenomena as the relation of the vasa vasora to the inflammatory area and the part played by the white corpuscles. But, as Camac remarks, "Many isolated facts were contributed." But it was left to Thoma to bring order out of this chaotic state by much study and work of a very complex and tedious nature, but as a result has furnished us with an explanation that seems perfect, at least the most satisfactory advanced. His studies were conducted on three lines, as follows:

1. Vessels in the fetus and newborn.
2. Vessels in the stump of an amputated limb.
3. Vessels showing disease.

In the first of these he observed that the obliteration of the blood track proceeds by way of the thickening of the intima.

In the amputated stump he also observed that the obliteration of the blood vessel took place by thickening of the intima. He concluded that this thickening took place in order to compensate for the lessened amount consequent upon the needs of the vessels. These he called "Physiological Thickenings."

In the case of arterio sclerosis he finds the same factors as in the physiological thickenings, but appearing in different sequence. Here he distinguishes two processes in the diffuse form of arterio sclerosis:

1. Primary.
2. Secondary.

In the primary he finds a yielding of the vessel from loss in elasticity with a consequent widening of the vessel and slowing of the blood current. Connective tissue develops in the subendothelial layers of the intima, a process which tends to restore the relation between the vessels and contents, and so require a compensatory thickening of the intima.

With advansing years in an individual the slowing of the blood current is *pari passu*, met by this compensatory thickening, and the relation between blood stream, vessel wall and cardiac potentiality and blood pressure is thus maintained.

In the secondary variety the process begins in the small vessels. In the nodular form the diseased areas are considered as localized points of elastic weakening, the compensatory process taking place at these points. The twisting of the vessel Thoma considered as points of dismissed elasticity yielding to blood pressure. This conformed to the circumscribed form of Councilman. In both the diffuse and nodular form we have the explanation that there is a weakening of the elastic coat with dilatation and compensatory thickening of the intima by development of connective tissue between the endothelium and underlying elastic tissue.

Coming next to consider the morbid anatomy, description will be limited to the diffuse form. The work done by Councilman in Osler's clinic is by all odds the most thorough, a resume of which we offer, and this taken from "Osler's Practice."

He studied forty-one cases, and of these there were twenty-seven of the diffuse form. This occurs as a rule in apparently healthy, strongly built, muscular men, the majority being between the ages of forty and fifty. The youngest in this series was a negro of twenty-three and the oldest a man of sixty. This study, as well as that by other observers, shows that the disease is much more prevalent in the negro race. Here arises an interesting point. Why such marked racial difference? This in view of the fact, as stated by Professor Beddoe, in "Allbutt's System of Medicine," in his article on "Anthropology," that "Negroes are said to be exempt, or nearly so, from piles and varicose veins, and the cause assigned is the greater strength in them of the vessel walls. On the other hand, apoplexy, using the word in the ordinary sense, appears to have no racial preference." As opportunity presented, I have, since reading this article, which was for the first time two or three years ago, tried to test the verity of the statement made by Dr. Beddoe, but this opportunity has been too limited to make a conclusion. No case of this kind has come under my observation in the negro, and in but one case

was hemorrhoids alleged, and that was in the case of a claimant for pension. Not the slightest enlargement of the veins was found, and the admissions were that he had been cured by an ointment some time before. I have been unable to find any mention of this racial exception mentioned by Dr. Beddoe, but which, after all, probably does not exist. But granting the greater strength of the vessels does not argue against the possibility of degeneration occurring in the walls of the vessel earlier in the negro race than the white, and which may be influenced more by conditions sociological than racial.

The changes in the vessels are widespread throughout the aorta and its branches. The degeneration of the media is most marked in the smaller arteries, while the capillaries are thickened, particularly those of the glomeruli of the kidneys, which are obliterated and involved in extensive hyaline degeneration. The small arteries of the kidney show thickening of the wall, due to the formation of homogenous hyaline tissue within the muscle coat. In some cases the sclerosis in the kidneys is slight, while in others it is marked. In many of the smallest vessels nothing can be seen of the elastic lamina; in others only fragments can be made out; in others it is preserved. Muscular fibers of the media show marked atrophic changes. In some arteries the muscle fibers have almost disappeared, and the media is changed into a homogeneous tissue similar to that in the thickened media.

In this group of cases—that is, the diffuse form in the young and middle aged—the heart shows important changes. Hypertrophy of the left ventricle and later the right side of the heart may become moderately enlarged. Fibrous myocarditis is often present, and particularly when the coronary arteries are involved, as not infrequently happens. But rarely sclerotic changes are found in the heart.

The etiological factors which are supposed to act singly or to combine in this disease are many and ill defined. Syphilis, alcohol and old age are among the most important causes. Strain, chronic intoxications of various kinds, the infectious diseases and heredity bear very important casual relations. The tendency shown to this disease in certain families can only be explained, so Dr. Osler says, in no other way "than in the make up of the machine bad material was used for the tubing." I have seen an instance of this in a son, mother and aunt.

Of the more chronic infections, syphilis stands at the head of the list. Recent studies by Dr. Thayer directs especial interest to typhoid fever as an example of the acute infections in casual relations. Lead, gout and alcohol are the most important of a group of chronic intoxications, with the latter or alcohol the most important. For reasons which will be more apparent in the further progress of this paper, typhoid fever and alcohol will be chosen as representatives of the two classes, infections and intoxications.

In the symposium on arterio sclerosis at Atlantic City, last year, Dr.

Thayer reported from some recent studies the relations of infections in general and typhoid in particular to arterio sclerosis. This work is the most systematic and notable ever undertaken on this aspect of the subject, and I can but voice the sentiment so well expressed by Dr. Cabot, in the dedication of his classical work on "Clinical Examination of the Blood" "To William Sidney Thayer, M. D., in grateful recognition of the standard of thorough work established by him." On the other hand, Dr. Cabot has, for one time at least, failed to emulate those virtues which he so keenly appreciates in others and so justly attributes to Dr. Thayer. Because of this exception and the weight that Dr. Cabot carries, considerable space will be devoted to a review of his work.

Dr. Cabot begins his argument to show that alcoholism is not a factor in the production of arterio sclerosis; first, by taking exceptions to the literature on the subject. He says all authors unconditionally assert the importance of the excessive use of alcoholic liquors in the production of arterio sclerosis. His position is that every one who has made this statement has made it unconditionally, and practically all are guilty. He mentions three exceptions, one of whom is Shrotter, in "Nothnagel's Pathology and Therapeutics," that is dubious upon which this belief is founded, and there are others, such as Duclos and Ribberts, who are yet more outspoken in their skepticism. Anything that is "dubious" or "skeptical" seems to attract Dr. Cabot, for he is never quite so contented as when he is trying to disprove something.

He makes his deductions from studies on three lines. First, how many cases not referable to syphilis and old age are found among alcoholics. For the first series he selected 283 dipsomaniacs at the Bridgewater Asylum, excluding all over fifty and those who had syphilis. The examination was limited to the heart, peripheral arteries, and questions as to the functions of the kidneys. Only those cases were accepted whose arteries were hard, tortuous or rough, and no note made of palpable radials or blood pressure. In short, the cases presented pathognomonic symptoms. Focal sclerosis was not considered in its probable relation, although there are reasons for thinking that this would be by far the most frequent in this class of cases, especially in the aorta and coronary arteries. I am sorry that Dr. Cabot, in this estimate, did not give us his observations on the functions of the kidney. I suppose, however, from recent studies by him, this was limited to what he terms "the time-honoured methods," to-wit: "The color, specific gravity and twenty-four hour quantity as affording the most and about the only reliable data."

Yet by accepting only those cases that presented advanced stages of arterio sclerosis, in the manner described, there were eighteen, or 6 per cent., in this series. By eliminating notes on palpable radials and blood pressure a very important element was disregarded, as shown by the studies of Dr. Thayer. By the latter, in his studies, he not only shows the relation of these to the disease, but proves the association of alco-

holism and arterio sclerosis as follows, hence we introduce it at this point. Dr. Thayer observes:

"1. The association of palpable radials and heavy physical labor, the latter being a common and admitted case of arterio scleorosis.

"2. The constant relation shown between hard physical labor, alcoholism and palpable radials to cases in which there is no casual factors."

On these points Dr. Thayer offers the following conclusions:

"1. The percentage of palpable radials is materially higher among those individuals in whom there is a history of heavy physical labor and of the use of alcoholic stimulants than in the remaining cases. This is appreciably higher in the cases giving a history of heavy work.

"2. The percentage of palpable radials arteries is higher among those cases presenting a history of severe infectious diseases than in those in which there is no casual factor to be obtained. The proportion is, however, far below that in the case of work and alcohol."

And further, in estimating the value of palpable radials, he draws the following conclusions, which are of much value to us all in every day clinical work. He says:

"It is well reognized that the palpability of the radial artery alone may bear little relation to the existence of sclerotic changes in other vessels, and in the individual case by no means justifies that arterio sclerosis exists elsewhere. It is also recognized that, in thin subjects, radial arteries which are free from changes may at times be rolled under the finger. On the other hand, it is common enough to find grave changes in the aorta, coronary artery and other vessels with perfectly soft radials. Notwithstanding these considerations, we believe that the change in the radial arteries sufficient to make a note in the course of an ordinary visit are in a considerable proportion of cases associated with arterio sclerotic changes elsewhere, and that this proportion of cases is large enough to give a certain value to a series of observations such as we wish to present."

Dr. Thayer's observation and analyses was upon nearly four thousand cases entering the Johns-Hopkins Hospital, and gave the following surprising results:

"The radial arteries were palpable in a large proportion of cases as compared with control observations on healthy men and women who had never had typhoid fever, the relation being 17 to 48 per cent. The systolic blood pressure was higher in every decade among old typhoid subjects, and, further, the heart was larger."

In the second series Dr. Cabot tried to determine in what proportion of cases, relatively, arterio sclerosis was present in the peripheral arteries of alcoholics. He states that of the several hundred seen by him at the Massachusetts General Hospital, forty-five were under the age of fifty, and of these 13 per cent. gave a history of alcoholism.

For the third and final consideration he goes to the autopsy records

of Drs. Wright and Mallory, of the Massachusetts General Hospital and the Boston City Hospital, with the following results:

Of the ninety-five cases of arterio sclerosis under fifty and without a history of syphilis fifty-seven, or 60 per cent., gave no history of alcoholism, while the remaining thirty-nine cases, or 40 per cent., made various admissions as to the use of alcohol, but all used it in some form. Dr. Cabot, in summing up the record, says that only 20 or 21 per cent., used it excessively. From these twenty cases he deducts four cases in which the autopsy records show chronic nephritis, for the reason that nephritis is said to cause arterio sclerosis. But as to the relation of arterio sclerosis and nephritis there is much difference of opinion. Besides the disputed points, even in the present cases, it is just or even more consistent to infer that the arterio sclerosis was the primary disease, or that, as most authors assert, alcoholism may have caused the nephritis and was indirectly responsible for the sclerosis. But, according to this scaling down, it leaves sixteen cases, or 17 per cent., of the total in which there is excessive use of alcohol.

But if you will carefully scrutinize the protocols which Dr. Cabot supplements, you will find the following admissions: Thirty-one, or nearly one-third of the total autopsy cases, made the following statements: "Drank daily, considerably or excessively." The eight remaining cases made the following statements: Two moderate, one whisky every other day, one beer and whisky occasionally, one less than one beer a day, one occasional glass of ale, gin or whisky, and one rum, three glasses per week the year around. Even these would hardly be selected as models of sobriety; for the self-styled moderate drinker and the fellow who takes one occasionally are to be taken with considerable salt.

Now, what has Dr. Cabot shown? First, that at least 6 per cent. of dipsomaniacs, under fifty and without syphilis, have advanced arterio sclerosis, with "hard, rough or tortuous arteries;" in short, giving pathognomonic symptoms. But that probably this represents only a small percentage of focal sclerosis in the aorta, coronary arteries and other organs, as shown by the studies of Thayer and the next paragraph from Cabot.

That, according to his observations at the Massachusetts General Hospital, at least 13 per cent. of cases under fifty and who have not had syphilis have a history of alcoholism. But that at autopsy in the same institution 21 per cent. have used alcohol excessively, and that 40 per cent. have been addicted to the excessive or moderate use of alcohol. It only remains to make this query: Is 6 to 13 per cent. a fair average in control observations in men taken from the ordinary avocations of life, as these no doubt were in Series 1 and 2, with syphilis and alcohol eliminated? Or, in other words, have 6 to 13 per cent. of men in the ordinary pursuits advanced arterio sclerosis who are under fifty, abstemious, and have

never had syphilis? If this is too high, we are still forced to accept the unconditional statement of the many as against the skepticism of the few, and await further proof. Certainly his argument does not carry conviction.

Recent studies point to the adrenals, yet nothing very definite can be stated. The heightened arterial tension associated with disease of these organs is suggestive, and especially is this true when advanced arterio sclerosis is associated with disease of these organs, as almost invariably happens. So stated by Coplin, "Hare's Practice."

It is impossible to draw a uniform clinical picture, for the symptoms depend upon the advance in the different organs. The cardio-vascular system alone as it appears in the diffuse form will receive attention.

The symptom which may first direct the attention of the patient to himself is breathlessness. This at first appears after slight exertion or some little excitement, but even this may pass without receiving due attention, and not until a certain mild degree of dyspnea is experienced does he apply for relief. This train of symptoms points to serious damage done and a certain degree of cardiac insufficiency. Antedating this stage was possibly some insomnia, slight vertigo, noises in the ears, forgetfulness or confusion of ideas, motor or sensory disturbance in the extremities, but not considered by the patient of any moment.

The symptoms pathognomonic of diffuse arterio sclerosis are four: "Increased arterial tension, a palpable thickening of the arteries, hypertrophy of the left ventricle and accentuation of the aortic second sound." (Osler.) The accentuation of the aortic second sound is really but a result of the increased arterial tension and the left ventricle hypertrophy. The hypertrophy of the left ventricle is the result and not the cause of the increased resistance. So long as this resistance in the vessels is maintained and the cardiac hypertrophy increases to meet this resistance, so long will the health remain good; but when dilatation displaces the hypertrophy relative mitral insufficiency takes place, and the symptoms become that of an old valvular lesion with lost compensation. Cases seen for the first time in this stage are almost invariably diagnosed as chronic valvular lesion, as a loud, blowing systolic murmur is present. At this time, and often from the beginning, small amounts of albumen may be present.

The peripheral arteries show a high tension, which remains full and palpable during the intervals of the pulse. The firmest pressure fails to stop the pulse wave or collapse the vessel beyond the point of pressure. A hard, persistent, incompressible pulse should always direct attention to the heart, kidneys and vessels. A trace of albumen occasionally does not always mean a nephritis.

We find a displaced and often visible and heaving impulse of the apex beat, to the left and slightly downward, accentuation of the aortic second sound, which may be loud, sharp or ringing. As a rule the first

sound at the apex is dull, prolonged and low pitched, while at the same time the transmitted accentuated second sound at the apex may be heard with marked clearness.

The degree of successful treatment depends upon the stage, circumstances and discretion of the patient. In many cases of advanced change in the heart and arteries decided improvement may be noted, and the patient enjoy reasonable health for years. But it is always well to acquaint the patient with the nature of the disease; in fact, this is indispensible to hope even for temporary relief. If seen in the early stage, as is rare when the changes are slight, the disease, by proper hygiene, may be arrested. Mental and bodily rest are essential. Excesses in eating and drinking must be carefully avoided. Iodide of sodium for continuous use and the nitrates in some form are supposed to exercise some beneficial effects. As the case progresses it resolves into symptomatic treatment. As the burden falls on the heart, kidneys and lungs, brain and vessels, the picture darkens, and helplessness becomes more apparent with each advance.

REFERENCES NOT MENTIONED.

Mott—"Abbott's System of Medicine."
Haktoen—"Reference Handbook Medical Science."
"Kirke's Physiology."

CANCER OF THE RECTUM.*

BY F. W. SAMUEL, A. M., M. D.,
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MR. PRESIDENT AND FELLOWS OF THE EAST TENNESSEE MEDICAL SOCIETY:—It becomes my pleasure to thank you for the honor of addressing you today. The subject which I have selected is one of increasing interest to the physician as well as to the surgeon, as it deals with malignancy, which is of peculiar interest and importance. And in view of our present knowledge of carcinoma, the only treatment that holds out really to this class of cases is the operative, which I believe in this particular class the suffering is increasing. As to the benefits to be derived in this class, with the knowledge before us that cancer is becoming more frequent, and, fortunately for our patients, is possibly diagnosed earlier, our attempt in early operative interference has already shown an important improvement in our results. While the attitude that I hold in regard to these cases may seem to you quite radical, I am convinced, after a number of years of observation and operative interference, that it will be more and more the attitude of surgeons in general.

In a paper on this subject read by me, in 1903, before the Louisville Surgical Society, I received quite a great deal of adverse criticism on

*Read before the East Tennessee Medical Society, September 30, 1905.

account of the radical measures suggested by me at that time. Since then I have had one case of cancer of the rectum diagnosed early enough, in my opinion, for operative intervention, which case I can now add to those operated upon by me, and although the time elapsed is yet too short to express a view as to the permanency of the cure, I feel that the result will show as good as the others reported by me, since no return or any evidence of malignancy has shown itself in the past eighteen months time elapsed since operating.

As I have said, while I received adverse criticism on account of the radical position maintained by me in this particular class of cases, I am now rewarded with the fact that not only in this country, but in many parts of Europe, others since then have expressed their belief that such a measure suggested and adopted by me is the only hope offered for such cases as these.

The expressions and the deductions in the essay presented to you this evening for discussion are based upon the results of the operative work instituted in the last three cases of cancer that have come under my care, embracing the short period of less than two years. In my entire experience I have only seen twelve cases, and that embraces a period of nearly seventeen years, and includes the last three reported cases. However, I have, through the courtesy of others, seen possibly twice that number in different stages of development. My individual experience, therefore, has not been a very large one as to the number seen; but of the twelve cases I have had under my care, I have been able to follow them through their clinical picture that was impressed upon me during the time I endeavored to relieve their distressing symptoms has forced me to the conclusion that cancer of the rectum is the most deplorable and loathsome disease with which I have ever come in contact. Those that were afflicted, in many instances the most beloved in a charming circle of relatives and friends, soon became relegated to the class of morphine habitues, and from their loathsome condition by choice the hermits of the family; in fact, a melancholy state is plainly noticeable in many in the later stages of the disease.

In the last decade radical methods have given great impetus to surgical endeavor to relieve these cases, and the improved technic has begun to show great success in this field. However, there is no field open to the surgeon that promises greater rewards in the improvement of early diagnosis and operative technique.

The meager results of operative measures that have been instituted in the past are, in my mind, clearly due to the fact that such operations have been done at too late a period in the history of the disease to be complete, and the route selected to reach the field of the disease too limited in the space it afforded to insure anything like a radical procedure. This fact has led to the more modern operative technique, such

as the transacral operations after the method of Kraske, and in high growths the abdominal route as done by Quenu, Abbe and others.

The operations that have been done at a late period in the case are necessarily incomplete in most cases, and, as far as my experience goes, the indication for operation has recurred, and it is this fact that has made cancer of the rectum the *nolle me tangere* of surgeons in the past.

Possibly the first symptom that we are called upon to give relief for is that of stenosis, which, as the infiltration progresses, becomes one of the obstructions to the easy passage of the feces, resulting in tenesmus that is painful and needing constant relief. This is soon followed by foul-smelling discharges; sooner or later the perirectal structure becomes involved and breaking down from the subsequent infection abscesses form, leading to fistulous openings about the buttocks. This horrible state only goes to prove that when cancer of the rectum has reached the border line of operable to that of inoperable there is nothing that we possess that will stay the disease.

Cancer of the rectum occurs in any part of the rectum, but most frequently from one to two and a half inches from the anus; histologically it is most frequently met with as an adeno-carcinoma, *i. e.*, a glandular carcinoma with cylindrical cells; proliferation of the glandular ducts give rise early to an adenoma, and, by an atypical growth of the epithelial elements, becomes a carcinoma. Destructive adenomas here have the same clinical course as do genuine carcinomas; in addition to this class of growths there have been reported scirrhous and colloid cancer. Cancer here proceeds along the same lines that it does elsewhere, possibly in most cases a little more rapidly, in that soon in its history infiltration begins and with rapid lymphatic involvement, making many cases early in their history inoperable. It is not far here to see the reason for the rapid cell activity, due in the first place to the function of the part, in that it is the route for offensive fecal discharges passing over the surface of the growth, laden with infective material, which, by traumatism, soon become engrafted upon the growth, mixed infection. This causes ulceration early in its course and marks the beginning of a cachexia. The clinical course of cancer of the rectum is characterized in its early stages. My own experience compels me to regard as one of the early symptoms a fullness in the rectum, accompanied by a mucus discharge, noticed by the patient as a moisture of the anus, occasionally a light amount of blood, amounting to a drop or two, or a slight mass of mucus, tinged, as it were, with blood. Many cases, however, in their incipiency are so devoid of symptoms that stenosis is the first sign that forces the patient to seek relief; however, in consequence of early infective processes determining ulceration, discharges of pus and blood may precede any marked obstructive symptoms. In my experience I have been impressed with the fact that pain as a marked factor is present only in the later stages of the disease; that when pain is distressing it

is the result of an increasing stenosis and extensive infiltration. Exception to this will be noted whenever the growth begins very close to the anus and early involves the anus or the sphincter, or where it begins at the verge of the anus as an epithelioma.

The prognosis in cancer of the rectum is extremely gloomy, different reporters of cases fixing the limit of life from one to two years. In dealing with this subject the greatest emphasis is to be placed upon the importance of the early recognition of malignant changes that occur in the rectum and lower bowel, since in the treatment of cancer little is to be hoped for by surgical measures unless taken in its early stages, and at the present time nothing is to be hoped for except from prompt surgical intervention. I would define the early stage as the time before the disease has extensively infiltrated the rectal wall, at least before the perirectal structures are involved. Therefore, in the diagnosis of cases, we cannot too strongly urge the necessity for an examination of all irritations referred to the rectum.

The treatment of cancer of the rectum from a clinical standpoint calls for consideration under palliative and radical treatment. I shall, in discussing the subject, confine my remarks to what I regard as operable cases, and the surgical methods that I have concluded from my limited experience hold out to the patient the best results. This consists in doing a preliminary colostomy, to be converted at a later time into an artificial anus—the method of Kraske.

Operable cases of cancer of the rectum, coming within the limits of surgical cure, are cases where the obstruction is not marked and the infiltration has not progressed beyond the rectal walls. When perirectal structures have become involved, such are plainly inoperable, and are to be eliminated from the discussion.

The operative measures to be instituted in the early stages of cancer will depend upon the location of the growth. All growths, with the exception of those at the verge of the anus, which are virtually an external involvement of the anus, require such procedures as excision of the cancer and partial excision of the rectum through the perineum, or such room as can be obtained in front of the coccyx. All growths that are located well within the rectum will demand a method that will give more room in order that as much of the rectum as needs it may be removed, and in the cases where lymph nodes are involved, they, too, can be seen and excised.

I believe that the greatest advance in the cure of this dreadful malady will in the future be based upon the fact that operators will, in the majority of cases, entirely obliterate all of the bowel below the site of the excised bowel, and abandon the idea of establishing the continuity of the rectum by bringing down the upper part of the gut and suturing it to the intact sphincter. I regard the following steps as essential in the

ultimate success of the case if we expect to lower our mortality from recurrence:

That an artificial anus be made or anticipated by doing a preliminary colostomy in preference to the more radical operation as a primary procedure. By doing this a decided advantage will be gained by diverting the flow of feces from the cancerous area, especially in beginning ulceration, thereby allowing better disinfection by frequent intermittent irrigation, which in my experience improves the patient's condition.

In cases where the growth is situated high up in the rectum I would now be influenced by the late teaching of Quenu, Abbe and others, and select the abdominal route, extending the usefulness of the operative procedure, in that it could be made more radical in attacking lymphatic involvement, and the end of the bowel be obliterated, and an artificial anus established at once. In obliterating the distal part of the gut we get rid of the danger of infection by the offensive discharges and the incompleteness of the operation. The disposition of the gut above the site of the excision has always been a difficult question in the transacral methods, but in a preliminary colostomy fecal defilement is gotten rid of, and the gut fixed as high up or more drainage substituted. I have had no experience with the combined abdominal and sacral route, but the results of Abbe and Quenu give us great encouragement. Writers, in discussing the excision as far as possible of all that part of the rectum below the growth, lay great stress upon the fact that a large percentage of the cases that are referred to them are in the late period, and are inoperable for the reason that they have been overlooked. From a clinical standpoint age should not have any bearing in this class of cases, for many observers have placed upon record cases at thirty to thirty-five years of age.

The two cases referred to are briefly as follows: A male, white, farmer, forty-four years of age, one of eight children; father died at forty-eight of tuberculosis; mother living, age sixty-six. Until two years ago previous health excellent. At this time he had a slight irritation at the anus, which increased until he complained of what he called neuralgia. His real trouble, however, dates back about seven months from the time of the operation. At this time he began to suffer with tenesmus, followed by bloody mucus, without relief, and frequently a diarrhea.

The second case was operated upon seventeen months ago. Age thirty-eight; of excellent health previous to the beginning of his trouble; father and mother both living, both over sixty. When first seen I got a history that he had been passing bloody mucus for about four months, followed by pain, which at times was quite severe. In the first case an ocular inspection of the growth showed it as a distinct tumor, hard to the touch, bleeding upon being irritated, but wall of the bowel did not seem to be greatly involved. It was located upon the anterior and lateral

wall of the rectum. At the operation the wall of the bowel was considerably infiltrated, and was slightly adherent to the bladder in front. Distance of growth from the anus, three and one-half inches. In the second case the mass was fungus-like, hard to probe, and in circumference was the size of a dollar, located upon the posterior and right lateral walls. It was with difficulty that I could touch the growth with my finger, pulling the rectal wall down with a tenaculum, the patient under chloroform. In neither case was there any part of the growth removed for a preliminary microscopical examination. Section after removal, however, showed them to be carcinoma, and the case of Dowell, age forty-four, a typical adeno carcinoma; both cases recovered, one quite rapidly, the other after a hard time, as the wound became infected. His recovery after two months seems good; he has gone nearly fourteen months now without any return. In the other case it has been nearly twenty months since he was operated on. I have not heard from him in a year.

INTESTINAL OBSTRUCTION—Report of Cases.

BY IRVIN ABELL, A. M., M. D.,
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THE following report embraces five cases of intestinal obstruction; two are of the acute and three of the chronic variety. Each seems to the writer to possess points of peculiar interest; the two acute cases were both hernia, one inguinal and one femoral, the ileum being the portion of gut involved in both cases; in the inguinal the situation of the obstruction, and in the femoral the size of ring and sac constitute the points of interest. In the chronic cases the origin of one, the character and coincidence of tubercular salpingitis in another, and the total absence of any known cause in the third case, constitute the points of interest; the ileum was the portion of gut involved in one, and the ascending colon in two.

CASE I.—R. D., age fifty-four; had left inguinal hernia for five or six years, for which he had worn truss. At the time I saw him he had been suffering for fifteen hours, the attack having begun with colicky pains, which increased in severity until vomiting followed, the vomitus at first consisting of the contents of the stomach, later of the intestine; he was distended, intestinal movement was visible through the wall, with no evidence of hernia or obstruction in the left inguinal region; general abdominal tenderness, muscular resistance being marked in the median line between the umbilicus and pubes; pulse 120. Under the anesthetic a mass was to be felt in the median line at the point mentioned, over which the incision was made; the point of obstruction was in the ileum, a knuckle of which had been caught in the fascia of the internal ring of

the left side, and the gradual accumulation of serum between this and the abdominal wall had pushed the obstructed point toward the median line; this was freed and the hernia repaired through a separate incision; the pain and vomiting stopped, and the bowel moved the next day. At the end of forty-eight hours patient had a slight elevation of temperature, which, instead of declining following the administration of salines, continued to rise. The highest point reached was on the fifth day, when it rose to 103.5 and the pulse to 140; quinine seemed to have no effect. The wound being in good condition, the patient was placed on intestinal antiseptics and stimulants; the temperature gradually subsided and the pulse declined until normal was reached about the tenth day; wounds united promptly and patient was allowed to go home from the infirmary on the fifteenth day. In the absence of any definite cause for the temperature, it is not unreasonable to suppose that pressure ulceration with absorption of toxins was present at the site of the obstruction.

CASE II.—Mrs. B. S., age sixty-four, had a left femoral hernia of thirty-two years' duration. During this time the hernia had on several occasions beceme obstructed, but palliation had always succeeded in relieving the obstruction until the attack during which I saw her. The characteristic symptoms of strangulation were present, and the tumor was the largest I have ever seen in a hernia of this type. The sac was as large as a large orange and the ring easily permitted the introduction of two fingers; the gut was black and showed thrombotic spots throughout, but the application of heat caused it to show evidence of viability; it was returned to the cavity, the sac was amputated, and the canal closed with longitudinal sutures running at right angles to Poupart's ligament, catching this ligament and the fascia of the pectineus muscle; a purse string suture was then made of the deep fascia of the thigh and the skin closed. The patient suffered a severe ether bronchitis, but otherwise made a satisfactory convalescence, the continual cough excited by the bronchitis fortunately not affecting the union of the wound.

In the three remaining cases the obstruction was never complete, but was present in sufficient degree to cause continual distress. The causes of chronic obstruction may briefly be said to be those originating and acting from within, and those originating and acting from without the intestine. The most frequent cause within the intestine is ulcer; the resulting ciccatrix reduces the lumen of the gut until the fecal stream is interfered with. Rarely do we see adhesions resulting from ulceration in the lower part of the intestinal tract unless it be of tubercular character. The obstruction that usually results from ulcer ciccatrix takes the form of a stenosis, and in the small intestine the stenosis must be marked before the interference with the fecal stream is sufficient to produce symptoms. The first case of the chronic type I wish to report followed typhoid fever. Thompson, in his "Text Book of Practical Medicine," says: "They (the ulcers) predominate in the lower ileum,

but the upper large intestine is involved in one-third of the cases, and the ulcers are found in the ileo-cecal valve and in the cecum, or even beyond it, and they may extend into the jejunum and appendix.....The healing is so complete that within a few weeks after its commencement, should the patient die of some complication or intercurrent disease, no macroscopical appearance of the ulcers remains, and they almost never form constrictions or adhesions."

Case III.—A. C. Z., of middle age, and of strong athletic build, with the following history: Only illness since childhood was typhoid fever, of which he suffered two attacks, the first ten years previous to his coming under observation and the second one year previous. His first attack was a very severe one, lasting twelve weeks, with the temperature persistently high and complicated by several hemorrhages; the second attack lasted seven weeks, and was also marked by high temperature. Following the first attack there was persistent discomfort in the right iliac fossa, forcing him to give up athletic sports, and rendering painful any exercise which jolted him; flexion of the body and complete extension of the right leg were also a source of discomfort; there was from time to time constipation and obstructive symptoms, the obstipation at one time lasting nine days, during which there was distension and colicky pains. These symptoms were aggravated by the second attack; palpation revealed tenderness and marked resistance upon the right side. At operation the following condition was found: The lower ten inches of the ileum and the ascending colon were involved in numerous adhesions; there were several well marked cicatrixes in the ileum, apparently corresponding to the sites of the former typhoid ulcers: these cicatrixes were also present in the ascending colon, and at one such point there was an adhesion between the ascending and transverse colon, converting the normal right angle or curve of the hepatic flexure into a distinct loop, and narrowing the lumen of the gut at this point; over all this the omentum was thickened with inflammatory cellular deposit, and adherent at many points to the underlying gut. The omentum was removed, the adhesions separated, and the raw surfaces quilted over where possible with Lembert sutures; the appendix, being involved in the adhesions, was also removed; the adhesion between the ascending and transverse colon was separated with difficulty, the dissection carrying us down to the mucous membrane, the resulting defect being repaired with the Lembert sutures.

It is now nearly one year since the operation, and the relief has been all that could be wished; the pain and distress have disappeared, as has also the constipation, and the patient has been able to resume an active occupation. Since having this case under observation I have made it a point to examine the intestines of patients coming to operation who have given a history of typhoid, but so far have failed to find any visible evidence of cicatrixes. I have had the opportuntty to examine the in-

testine of two patients who had been operated successfully for gunshot wound of the abdomen with perforation of the gut, one in my hands and one in the hands of a colleague. My patient died from a stab wound of the neck four months after he had received the gunshot wound; at autopsy no evidence of injury to the gut could be found, although there had been at the time four perforations with a bullet of 44 calibre. The patient of my colleague sustained eleven perforations with a bullet of 22-calibre, and two years after came to operation with an obstruction due to omentum bands at site of former abdominal incision; the intestine showed no evidence of previous injury. The intestinal wounds were in each case closed with two rows of Lembert sutures, using a No. 0 catgut.

CASE IV.—Mrs. W. D., age twenty-four; no history of illness of any moment since childhood until the inception of the present; during childhood she suffered from some abdominal disturbance which confined her to bed for four or five weeks, but could not give a definite history of same. Her present trouble began five years ago with an attack of pain in the right side following the exertion incidental to house cleaning, moving of furniture, etc. She was in bed at this time for two weeks, and while she suffered severely there was no temperature elevation. Since this attack she has suffered at frequent intervals with sharp colic, the colic showing itself particularly when constipation was present; the pain and tenderness on pressure corresponded to the location of the ascending colon, extending from a point below the ribs nearly to the McBurney point. At operation the ascending colon was found enveloped in omental adhesions and bound to the abdominal wall between the ribs and crest of the ileum; the head of the colon with the appendix was practically free of adhesions, there being but a few to the meso-appendix; the appendix was removed, although its involvement was plainly secondary to the trouble above; the colon was freed of adhesions and the omentum tied off and removed; a careful inspection of the bowel failed to reveal any cicatrix or infiltration indicative of previous ulcer or inflammatory lesion. Neither the history nor the condition found explains to my mind the origin of the omental adhesions; these completely enveloped the colon, binding it to wall and narrowing its lumen. The operation has been but recently performed, and so far the relief has been complete.

CASE V.—Miss B. S., age 19, of tubercular family and appearance; had suffered pain in the right iliac fossa for about one year; this had gradually grown worse, and was aggravated by the ingestion of food. At the time she came under observation she was thin and anemic, and was unable to take food on account of the suffering it produced; following the ingestion of food the cramps became severe, and the movements of the intestinal coils were at times visible through the thin abdominal walls. At operation a band was found in the right iliac fossa, under which passed a loop of the ileum; the band was divided between two

ligatures and removed; the tubes showed a distinct tuberculosis, and were removed at the same time; convalescence was prolonged and tedious, she failing to rapidly gain strength, and suffering from the nervous phenomena of the induced menopause. The relief from the colic was immediate, and has been permanent. It is now about two years since the operation, and the patient is stronger, in good flesh, and able to earn her living as clerk in a department store. The colic in this case was much more marked than in the cases where the colon was involved. This we can readily understand when we consider that the peristaltic wave in the small intestine is estimated to be twenty-five times stronger than in the large intestine.

DISCUSSION.

DR. W. H. WATHEN: I suppose the latitude of the paper will admit of discussing all forms of acute or chronic obstruction of the intestinal tract, both large and small intestine. These are interesting cases and practical cases. They demonstrate how trouble may arise from some hidden conditions within the peritoneal cavity which may cause serious or fatal results if neglected, and yet may be easily relieved by a timely operation by a good surgeon.

In one or two of the cases reported I think the extensive adhesions to the colon and omentum must have been from some involvement of the duodenum—ulceration and perforation—or from the gall bladder. Dr. Abell does not seem to have mentioned or examined these structures. We have found in recent years that the duodenum is often involved in ulceration and perforation, and extensive adhesions follow. We knew long ago that extensive adhesions followed involvement of the gall bladder.

Very often it is of more value to the progress of surgery to report fatal cases than to report even successful ones. In the last few months I have had quite an experience in relation to cases of this sort where the patients have died, nearly all of whom could have been saved had they been operated upon timely.

CASE I.—A few weeks ago I was called to see a child four years of age in consultation with one of our leading physicians, where the bowels had been obstructed for ten days. The child was passing no gas, the abdomen was very much distended, and the pulse was very rapid. The symptoms indicated intussusception. The child was taken to the hospital in the afternoon, and operated upon in very bad condition; pulse very rapid, extremities getting cold, bowels so distended that it was necessary to open the ileum in two or three places, and drain away the fecal matter and gas. Then the intussusception was found. It was six inches long, and was located in the sigmoid flexure. The intussusception was relieved, but the patient died during the night. She was operated

on in the afternoon. This patient could have probably been relieved two days sooner, but certainly at the beginning of the trouble.

CASE II.—In this case the patient was taken with what was supposed to be appendicitis. There was no elevation of temperature at first. I advised that the patient be taken to the hospital. He was not taken until twenty-four hours afterward, and was then pulseless and cold to the knees. The abdomen was opened, and it was found that the distal end of a Meckel's diverticulum had become adherent to the ileum, and two-thirds of the ileum had passed through this opening, and had become gangrenous. The child could have been saved without difficulty at the beginning of the trouble.

CASE III.—A few weeks ago a woman, while purchasing her marketing, was suddenly seized with a severe pain upon the right side in the region of the umbilicus. She returned home in great agony, and a doctor was called, and insisted upon her going to a hospital, but she would not do so. I saw her thirty hours afterward, and she was immediately taken to St. Anthony's Hospital; her pulse was rapid, and she was cold up to the knees. She had diffuse peritonitis. Some fecal matter was found in the peritoneal cavity, and finally an opening found in the ileum about eight feet from the ileo-cecal valve, at the attachment of the mesentery, about the size of a 38-caliber bullet. This woman died, but might have been saved had she been operated on early.

CASE IV.—I was called to the country about ten days ago to see a boy six years of age, who sixty hours previously complained of sudden and intense pain in the abdomen. The symptoms indicated that he had obstruction. He had an enormously distended abdomen, suffering all the time with severe pain on right side of abdomen, his pulse was very rapid and extremities cold. The abdomen was opened under very bad conditions, lamps being held to give light in the night. The bowels were so distended that I had to make little openings in several places in order to drain the gas and thin fecal matter. After a thorough examination, the small intestine, including the jejunum and upper part of the ileum down to within ten feet of the ileo-cecal valve was normal; below this point the ileum was black, the cecum was black, and also the lower part of the ascending colon. The hepatic flexure, the transverse colon and the sigmoid flexure were not involved. The mesentery of all the involved part of the bowel was black; there were no adhesions anywhere, and no obstruction anywhere, but paresis and infarction of the bowel as a result of thrombosis of the mesenteric vessels. This boy lived twenty-four hours. His bowels moved the next morning.

I did nothing more than to open the bowel at several points and drain away the gas and fecal matter, for the reason that so much of the bowel and mesentery was involved that you could have made no resection without causing death. The boy was left in just as good condition as we could have left him by doing further operation, the bowel having been

drained and closed. Had I been called earlier, before the bowel was practically destroyed—it was almost in a gangrenous condition—I would have made fecal fistula in the ileum just above the ileo-cecal valve, so that the bowel might have been drained, with the hope that in the collapsed state there might have been enough collateral circulation established to preserve the life of the bowel. It has been the history of all these cases of thrombotic trouble in the large vessels that these patients have died, a few of them, of course, getting well. That depends not only upon the promptness of the operation and drainage, but also upon the amount of the intestine involved. Where the jejunum and the ileum within ten feet of the ileo-cecal valve and the lower part of the ascending colon are involved a collateral circulation can never be established that is going to save the life of the patient. We cannot take off the mesentery and all of the intestine, and do an anastomosis and save the life of the patient. Now, when we speak of complete collateral circulation coming from the lower mesenteric artery, that is practically impossible. It cannot come over successfully from that vessel.

Dr. Irwin: I wish to compliment the essayist on his report. He has given us solid material. He has given us one point that is always recognized as a good one, and that is that the surgeon does not know what is within the abdominal cavity until after it has been opened. While I was away this summer I met an eminent physician who remarked to me: "Now that the uric acid theory is about exploded, what do you think will be the coming fad?" I said: "Suggestive medicine," which remark was made before I knew that one of our surgeons could make a long distance diagnosis of diseases within the abdomen.

Dr. Coomes: I was interested in Dr. Abell's report of cases, and I want to thank the doctor for his report. I will leave the discussion to some of the young men who are better up in surgery than I am.

Dr. Willmoth: I want to thank Dr. Abell for the report of his cases. In Dr. Wathen's case of mesenteric thrombosis I think the destruction of the bowel was so great that no one would have attempted a resection. In the case I saw the gangrene of the bowel was so extensive that the most we could hope to do was to drain.

Dr. Abell, in his hernia cases, was exceedingly fortunate in getting the cases early. A great many cases of hernia, particularly femoral hernia, where the abdomen is distended, we are apt to overlook these cases where the patients do not call our attention to it, and we should examine very carefully to tell where the obstruction is. There are other cases where obstruction occurs from adhesions, and we are unable to account for these adhesions. I remember the first case where I opened the abdomen for intestinal obstruction. I had no one with me upon whom I could rely for assistance. The patient was a young man who gave no previous history of a lesion or previous trouble. This man had adhesions between the loops of the ileum, causing complete obstruction there,

and he said if he had ever had any trouble of any kind since he was old enough to remember that he had forgotten. He was a man sensible enough to remember any disease that would have caused any such extensive adhesion. There was no tubercular condition. He is well today, and there is no accounting for these adhesions.

DR. LEAVELL: Of course I want to thank Dr. Abell for his report of cases which demonstrate plainly that we have been making mistakes in a medical way in treating many of these cases. I think the question of ulcer of the bowel is one rather in its incipiency, and that the surgeons are developing that field for the medical men as they have developed other lesions in the abdomen, particularly adhesions around the gall bladder producing dyspeptic disorders. It is now several decades since appendicitis came into the field and was recognized as causing many digestive disorders which up to that date were not diagnosed.

It seems to me that a man is committing a great sin if he does not call in the surgeon to help shoulder the responsibility in these cases of acute indigestion, so-called, which do not yield readily. As a case in point I will report the case of a man I was called to see who had eaten indiscreetly, and had what I took to be an attack of acute indigestion. Vomiting came on immediately, and he had a good deal of pain in the region of the stomach. I was not able to relieve him of this indigestion, and one night I thought it advisable to make a further examination than I made at the first visit. When I examined the man, without any previous history in that direction, I found he had an inguinal hernia. He was, of course, at that time not in a favorable condition to be operated upon. There was nothing left to do but to operate, and fortunately the man recovered. At the operation about a pound of the omentum was found in the hernial sac. It was gangrenous, and had to be removed. The bowel was somewhat blackened, but regained its normal color in a short time and was returned to the abdomen, and the man made an uneventful recovery.

We should remember that there might be adhesions in the abdominal cavity. I think we treat many of these cases too long, and I do not believe much in chronic functional indigestion. I think that we will almost always find that we have adhesions in the region of the gall bladder, ulceration of the bowel, or some abdominal lesion which medicine will not cure.

DR. FLEXNER: Did his bowels move?

DR. LEAVELL: The lower bowel moved. He was given an enemata and passed gas for two days; he was still complaining of pain, and I examined him and found this hernial condition.

DR. J. R. WATHEN: There is little that I can add to the doctor's splendid paper. It is certainly a significant fact that the mortality in all cases of intestinal obstruction is enormously high. This is possibly due to many reasons. In the first place there is a natural tendency toward

delay on the part not only of the general practitioner or the surgeon who sees the case, but on account of the family themselves. They hate to subject the patient to a surgical operation when there are few symptoms present, or if a movement of the bowels might be brought about by medical means.

Another point in this connection is that it is remarkable when we consider the statistics of intestinal obstruction how little can be done in the cases seen after a diagnosis has been made. Granting that you make a diagnosis early in some cases of hemorrhagic pancreatitis, where the mortality is so high, or in thrombosis of the mesenteric arteries, I doubt if any surgical procedures would be of any benefit to the patient. They nearly always die. The great majority of cases of intestinal obstruction that we cure are due to hernia. It is something that we can diagnose from the outward appearance. It is diagnosed better and easier than other types of obstruction in the abdomen.

DR. MARSHALL: I enjoyed the paper very much, and I only arise to say that I would like to ask Dr. Abell, in closing, to give us some information about the extent of removal of the colon and of the small intestine that has been done successfully. I noticed in a very valuable collection of essays of Metchnikoff that the colon is an entirely unnecessary organ, and even part of the small intestine with the large could be removed. He claimed, as well as I remember, that the colon was really of no advantage to us.

DR. E. S. ALLEN: I enjoyed the doctor's paper. In regard to what Dr. Marshall said, I can hardly see how we could get along without the colon from a digestive standpoint, for we know that a great many of our food products are not completely digested in the stomach and small intestine, and bacteria exist in the large intestine which finish the process.

I would like to ask Dr. Abell if I understood him to say that he examined the Peyer's patches, and the microscope showed no results of the inflammatory lesion?

DR. ABELL: No, I did not say that. There is a loss of the follicles.

DR. E. S. ALLEN: I would like to mention a case that I assisted Dr. Samuel to operate on in which the intestinal obstruction was produced entirely, in my mind, by a functional condition. It was in a young woman of about twenty-five, who had had a diet for supper of fried corn. About 2 o'clock in the morning she vomited, and had intense pain in the abdomen, showing from collapse. She was not relieved by high enemas; she could not retain anything on the stomach. I gave her a large dose of calomel, but she vomited that up; hot stoupes were applied to the abdomen, but she continued to vomit and have pain; she passed no gas. Very high enemas with water and turpentine gave no relief, and she continued to vomit, the vomitus being fecal in character. Dr. Samuel was out of town, and he returned in twenty-four hours after onset of attack; the patient was sent to a hospital and operated on. There

was enormous distension of the ileum; it was twice the size of the colon. At the ileo-cecal valve it was collapsed and flat, and seemed to be twisted upon itself. There might have been more twisting before the abdomen was opened. There were apoplectic areas all over the small intestine that looked like a typhoid condition, though the patient was well until this attack. This twisting was relieved, and the peristalsis soon started up, and that was all that was done to the patient. The abdomen was filled with a sero-lymph material. As soon as the abdomen was opened part of a necrosed appendix seemed to be the cause of this material, but in searching for the appendix it was a case of appendicitis obliterans. There was a little tip left with no meso-appendix. It was in a perfectly healthy condition. The patient recovered without any trouble.

DR. FLEXNER: I enjoyed Dr. Abell's report, because, in the first place, constipation, as Osler said to me once, is a disease; in fact, I might go back a little and say that he found me in my room with a pile of my case reports. He asked me why I had not put the diagnoses in these cases. I told him that there was not much diagnosis to put there, as they were only cases of constipation. He said that constipation was a disease, and that I would have little to do in treating sick people if I did not think constipation was a disease.

The element of constipation is one that we have much to do with, and a suggestion in Dr. Abell's paper was very valuable, and that was the suggestion that we should ascertain the cause of the constipation.

The point of interest in his paper is the case with the second attack of typhoid fever. I think that it is an admitted fact that a second attack is one of the rarest things in literature, and a case of hemorrhage, as you say, would speak for a perforation that was sealed up at the time by the omentum, so that we did not have peritonitis following the perforation. I think that was the most interesting case reported.

DR. ABELL (*closing*): The interesting feature of the first case was that the man gave a history of hernia. We could see the coils of intestines moving very plainly under the abdominal walls, and when we examined his hernial region the enlargement was not in the inguinal region, but in the median line, and it was our impression that we were dealing with a hernia reduced en bloc. The abdomen was opened, and the sac was found in the median line. It felt like a distended bladder. The question of diagnosis was possibly the most interesting thing about it.

In regard to the typhoid case, I have searched high and low for a similar report, and have been unable to find any one who has met with a similar case. He did not have hemorrhage in the second attack. The first attack was marked by hemorrhage. He said that he showed the rose colored spots in both attacks. There was no macroscopical lesion of the bowel, and I thought that his trouble was due to a perforation which nature had sealed up by glueing these intestines together, for

where the ascending colon joined the transverse it was brought over in a perfect loop, so that the curve was entirely destroyed. In that case and in the second case of a similar nature reported I thought that possibly the trouble, as Dr. Wathen has suggested, might be due to some inflammatory trouble about the duodenum or gall bladder, and I examined these regions, but there were no evidences of disease and no adhesions. In the lesions of the upper intestinal tract it is the rule to find intestinal adhesions if there has been no perforation, but in the lower intestinal tract it is rare unless we are dealing with a tubercular condition.

Dr. Wathen brought up an interesting subject in his report of a case of mesenteric thrombosis. In almost every portion of the body nature has provided for a collateral circulation except in the terminal branches of the brain. The lower portion of the duodenum, the jejunum, ileum, and the greater portion of the colon are supplied by the superior mesenteric artery, and no provision is made for a collateral circulation except an anastomosis with the inferior mesentery artery and the superior pancretico duodenal artery.

.... resected one and one-half meters of the intestine for thrombosis of the mesenteric artery, and Horsely, of Virginia, resected the ascending colon and ..... Both cases were successful.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, SEPTEMBER 26, 1905.

Dr. Coomes: I have a specimen to exhibit. It is rather unusual. That is the contents of the tumor in the bottle. It originated, apparently, from the top of the thryoid cartilage directly at the mouth of the pitcher. It had been in that position for over twenty odd years, and it had reached such a size that the woman had become affected in her breathing. This is the sac of the tumor that has been washed and stuffed with cotton. The woman was fifty-two years of age. Inside of this greater sac was a little sac about half the size, and it contained a yellow material that looked like cotton seed oil chilled. It was not a sebaceous material that we get in sebaceous tumors. The soft tissues and all of the muscles were pushed out of the way. It was lying directly over the cartilage, and kept her coughing almost constantly.

There was nothing unusual about its removal. I split open the tissues of the neck, and enucleated it with the fingers, except the last part of it, which I cut loose with a pair of blunt-pointed scissors. This looks like emulcified fat. The size of the growth was unusual. This was the largest I have ever seen. It seemed to come out under the cartilage as if it sprung from the mucous membrane of the larynx. It had no pedicle. It seemed to come out from the surface of the larynx and spread out. There

was no hemorrhage in its removal. I did not lose a half ounce of blood.

DR. IRWIN: I have very little to say except that it is a unique growth. It would be interesting to submit it to the microscope for analysis as to what the fluid really is.

DR. ABELL: I removed a similar growth from exactly the same location. It was not quite so large as this one. The fluid contents were thick and more whitish in character. I have on several occasions removed similar growths from other portions of the neck. I take this to be a bronchial cyst, having its origin in the mucous membrane of the larynx.

DR. WEIDNER: I have nothing further to say except that I am of the opinion expressed by Dr. Abell. I do not know of any tumor that could spring from this part except this character of tumor. Dermoids might spring from this location, but there is no indication in this case that the tumor is a dermoid.

DR. FLEXNER: It seems to me to be a bronchial cyst. I would like to know whether the fluid contains any cholesterin crystals.

DR. COOMES: I will have it analyzed. I have not had time. I just removed it on Wednesday.

REPORT OF CASES.

DR. COOMES: Some time in the early part of the month of July a patient four years and four months old was sent to me by Dr. McDermott to look at its neck. There was one very large gland on the side of the neck, and one or two smaller ones. There was one gland as large as that tumor, and I supposed it to be a tubercular infection; but after looking at the child for a little bit I asked the mother if the child was constipated. It had a peculiar yellow, cachectic look. She pressed me as to my opinion as to what was the matter with the child, and I told her that I did not care to say just then. After six or eight days the child became much worse—in fact, it was growing worse all the time. The child was not sleeping well, and was peevish all the time. Finally she insisted on my opinion, and I told her, after looking over the case, that the child had sarcoma. I talked to her about the matter, and she was dejected, as a mother naturally would be. She asked what should be done, and I told her that the child would die. The tonsil was pushed into the median line of the faucial space, and was not involved in the diseased condition. She asked me if I would remove the growth. I told her I would not until she had had a general surgeon see the case with me. I did not care to take all of the responsibility, as I did not think the child would get well. Finally Dr. Samuel saw the case. I told him that I thought it was malignant, and for him to express his opinion freely. He said he thought it was tubercular, because the chances were against it being the other thing.

The child went on from bad to worse, and on the 16th of July she was operated on, and Dr. Samuel did the operation, removing the large gland

and two or three smaller ones. There was nothing unusual about the operation at all. She did not rally quickly after the operation. The wound healed with only a little skin infection. The growth recurred with great rapidity, and the child died forty days after the operation.

The tonsil was pushed over beyond the median line. Dr. Dabney saw the case. It was a case at first glance you would have thought that there was pus in the tonsil. I operated with Dr. Samuel, and he wanted to open it, and I told him that there was no pus in it.

I report the case because of its occurring in a child of her age in that region. It is an exceedingly rare thing in young children. It is the first case I have ever seen involving the cervical glands in a child of that age. I have seen a growth of this kind in a child of eight or nine years of age springing from the sphenoid.

I saw another growth that sprung from the upper eyelid, and I declined to do anything for the patient at all, and he went to somebody else that stuck a knife in it, and in about eight weeks the growth had returned, and was as large as the two hands. The great rapidity with which the growth developed after removal was something wonderful.

DR. IRWIN: I was greatly interested in Dr. Coomes' remarks as to the age of the child and the nature of the growth. I saw almost a parallel case with a physician of this city about sixteen years ago. The child was a girl—I have forgotten her age, she was quite a small child—and the history of her case corresponded very well to the history of the case given here. The case was pronounced as one of tuberculous glands of the neck, and the mother refused to have an operation done without further advice. I saw the case in consultation, and after an examination I came to the conclusion that it was not a tubercular infection of the glands. The largest gland was in the region that Dr. Coomes has described; they were harder than is usual in tubercular glandular infection. There was headache, fever, considerable pain and stiffness in the neck, a decline in general health, and the pupil dilated on that side. I advised that we wait a little while, and if the growths were tubercular they would soften and break down. Instead of that they grew harder. I saw the patient again, and thought the trouble was sarcomatous, and the doctor agreed with me. The operation was done. The growth increased in size rapidly, and the child lived about nine months from the time I first saw it. It died of an enormous sarcoma, involving the head, neck and lower cervical region and the clavicle.

DR. WEIDNER: These cases are always of interest because of the difficulty of diagnosis. I saw this child before the operation and diagnosed sarcoma. Tubercular glands in this case were pretty well excluded because the condition had existed for some time, and there was no softening, and, furthermore, there were no enlarged glands on the other side of the neck, and besides it was one large continuous mass, not the involvement of several contiguous glands that occurs in tubercular infections of the

glands. The child had no fever, and no indication of tubercular trouble.

When I examined the child's throat there was a gush of blood from the throat, probably caused by the pressure with the tongue depressor. The child could not have lived long in this condition. I saw her two days before the operation.

The difficulty of diagnosis in these cases will always remain great. The softening of the glands, the agglutination of the glands, and their appearance on both sides of the neck favor a diagnosis of tubercular involvement more than anything else. We might have to deal with Hodgkin's disease. It begins in the cervical glands, and extends to other glands, and involves the glands on the other side of the neck. It could not be excluded here. It seemed to be continuous with the tonsil, and it is possible that it sprung from the tonsil.

DR. E. S. ALLEN: I assisted in the operation, saw it beforehand. I was given the gland just after the operation, and my impression from a microscopic view of it was that it was not a tubercular condition because there were five or six glands removed, and one of them was about the size of a hen's egg, and completely encapsulated. These glands were in a line chain-like, and there were no adhesions and no dissemination of the growth into the tissue. Every gland was encapsulated to a certain extent. There was no necrosis in the center of the glands. The glands were a hard, fibroid like mass, and they looked suspicious, as there was no necrosis inside of them.

I made several sections of the different glands, and examined them closely. I thought then it was a tubercular condition, because typical stroma of the lymphatic gland was present. There were a great many round cells found in this gland, and it made me a little suspicious of sarcoma. I thought possibly it was a tubercular condition, and there might be a round-celled infiltration. I examined ten or fifteen sections from the different glands, and could not satisfy myself that it was tubercular, though I was inclined to believe that it was. I then had a pathologist, more experienced than I, look at the specimens and he thought that it was a tubercular condition.

I dressed the child nearly every time after the operation, and about two weeks after the operation the growth had recurred. It seemed to extend out and involve the tissues of the neck; the skin at this time seemed to be involved. At the time of the operation it was not. The child had wryneck, and could not turn its head around to one side. It looked more like sarcoma from the clinical standpoint.

Dr. Coomes was out of the city, and Dr. Dabney was called in. He examined the tonsil, and as soon as he put his finger on it he said it was filled with pus. He punctured it in three or four places, but nothing came away except blood.

Dr. Coomes spoke of the child having cachexia. I want to ask this question: How could an encapsulated growth, with no infection and no

necrosis, give this cachectic condition? My idea is, there is a toxic product produced from the tissue necrosis, which, when absorbed, produces a hemolysis and anemic cachexia. When the growth does not break down how can it produce this cachectic condition?

Dr. Weidner said that the child had no elevation of temperature. Don't you remember doctor, that it ran a temperature of 101° both before and after the operation? Sometimes I took the temperature every day, and it was about 101°. There was no infection of the wound.

DR. MARSHALL: From the remarks just made it has reminded me of a case that I have had. I would like to ask one or two questions on this subject. I remember following another doctor in a neck case where he had treated the patient some time before I saw him. I removed some glands, and later on a condition similar to the one outlined by Dr. Allen arose. It produced a wryneck, and the man went on and died. Where these glands are so easily removed, is it not possible that we have two conditions here, and that the involvement of the glands is not the same as that following the operation?

DR. FLEXNER: I would like to ask you a question in this connection. Some twelve or fifteen months ago a child evidently with tubercular glands, but distributed posterior to the sterno-cleido-mastoid muscle, was brought to me, and this little girl gave evidences of adenoid involvement. I thought it best to remove the adenoids, and after the removal of the adenoids the post-cervical glands practically disappeared. In speaking to a surgeon of the case afterwards he said that it demonstrated that where the post-cervical glands were involved the original seat of the trouble was the adenoid, and where the anterior glands were involved the trouble was in the tonsil. If that is a fact, it is a very valuable diagnostic fact. Was there any possibility of an adenoid sarcoma, or was there anything in that statement?

DR. COOMES (*closing*): Gentlemen, I do not think that there is anything in that statement.

I want to say, in regard to the cachexia, six years ago a man named Clark came to me; he had a growth in the neck, which I removed. It recurred, and in about eight months he came back, and I used the Coley treatment, and finally the X-ray, and the growth went to his liver. I have never seen two cases look so much alike as Clark's and this child's. If ever I saw a child cachectic this child was cachectic. I do not know where it came from, but it struck me the first thing. The child was constipated. It may be that the child had sarcoma in the liver.

The interesting points about the case were the rapid development of the growth in the glands and the displacement of the tonsil. I have never seen a tonsil so much displaced from an ordinary cervical tuberculosis. This tonsil was not involved in the disease. At the operating table Dr. Samuel wanted to cut into the tonsil. I told him that the tonsil was not

involved and that I did not believe that the tonsil had anything to do with the disease.

DR. E. S. ALLEN: Don't you think that was a growth in the anterior pillar of the fauces on right side?

DR. COOMES: I do not think so. It was simply the swollen mucous membrane.

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DR. J. B. BULLITT: I have a very pretty specimen of interstitial fibroid of the uterus to exhibit to the society tonight. It is really one of the most beautiful specimens I have ever seen.

The patient was a woman about thirty years of age, whom I saw first about three years ago. At that time the woman was bleeding very extensively, and I curetted her, and put her on mammary extract. Under the influence of the latter, as well as the curettage, the bleeding ceased, and she has had no excessive bleeding since. The tumor continued to grow in size and cause a great deal of discomfort. It is one of those tumors which had its development into the folds of the broad ligament rather than out into the pelvis; a type which is apt to give a great deal more trouble than those which rise freely out of the pelvis. This little nodule developed on the top, and was the source of her chief concern, as it could be felt very distinctly through the abdominal wall. Abdominal hysterectomy was done, and only one ovary was removed, the other being in very good shape.

Upon opening the tumor we see a very beautiful picture of fibroid of the uterus. Here is the os, and you can see the cavity of the uterus. This a superitoneal fibroid, and here is the tip of the interstitial tumor.

DR. J. G. SHERRILL: This is certainly a typical beautiful specimen. I had a case resembling this one, in a way, which has been under the observation of various physicians and surgeons for a number of years before I saw her. I examined her several times myself and made out a fibroid of the uterus, but did not suspect a tumor growing in the interstices with a tendency to push in towards the cavity. Several doctors had advised operation but she was afraid of it and would never consent. One day I was called hurriedly and found her in profuse hemorrhage. Examination revealed the fact that a fibroid tumor was protruding through the os, nature, by contraction of the uterus, having made an effort to deliver it without any assistance, but it would have been a long time in accomplishing this result. Fortunately, I obtained the patient's consent to an operation and removed the tumor through the vagina without sacrificing the uterus. Of course, the specimen Dr. Bullitt exhibited could not have been re-

moved in the same way, owing to its size and the thickness of the tissue surrounding it.

DR. IRWIN ABEL: With Dr. Bullitt's permission, I should like to mention a case which the specimen recalls.

The patient was a woman about thirty years of age primipara. She had been pregnant once before and had miscarried, the after birth being retained, the attending physician being unable to remove it. She was found to have a fibroid of the posterior wall about half the size of this one. Examination was first attempted without an anesthetic, but it was absolutely impossible to get into the uterus. A second examination, with the patient under anesthetic, was successful, and it was not a matter of difficulty to remove this old placenta. The woman went along very nicely and when I examined her two weeks ago I found no evidence of the tumor at all. Some great change had taken place after the delivery of this placenta, causing the disappearance of the tumor.

DR. J. K. FREEMAN: I am very glad Dr. Abel brought out the effect of pregnancy on fibroid, my experience having been along that line. I had one woman who had a fibroid somewhat smaller than this one whom I delivered of a child at full term three years ago. When I examined that woman about six months ago I could find no trace of the fibroid at all. I am satisfied she had a fibroid, and it felt to me to be of considerable size. However, it did not interfere materially with her safe delivery.

DR. J. B. BULLITT: I just want to say a word about the different characters of fibroid, and the various methods of dealing with them.

Referring to Dr. Sherrill's remarks, of course submucous fibroids have their growth into the cavity of the uterus, and can be successfully removed through the cervix by way of the vagina and the rest of the uterus left; also, in quite a large number of superitoneal fibroids, it is perfectly feasible to remove them by the abdominal route, leaving the uterus intact. In the case under discussion I told the woman that our effort would be to remove the tumor in that way and leave the uterus, as she very much desired to have a child, but in a tumor of that description this mode of procedure was practically impossible.

In regard to the preservation of the sexual functions by retaining an ovary, Dr. Kennedy remarked to me, as I sat down, that leaving an ovary without the uterus would not enable a woman to retain her youthfulness. It is, in fact, of great service; a woman retains her sexual impulses in a way that women who have been castrated do not. The former do not become fat and coarse like the latter. When we look over the number of ovaries that have been sacrificed, I can only shed a tear for the damage done to women unnecessarily.

DR. G. A. HENDON: I have here some X-ray plates, for which I am indebted to the internes at the City Hospital.

The first one shows an injury to the radius. The patient, a man, was struck by a train, hurled some distance and fell with his weight on his

right hand. He suffered a very extensive comminuted fracture of the radius, dislocation of the wrist joint, and destruction of the soft parts to an excessive degree. The wrist joint was completely open and the muscles, skin and periosteum peeled from the bone at least a third of the extent of the radius. The ulna was dislocated outwards and the soft parts divided into two; one on the dorsal surface exposing the bones and one on the front extending a third of the distance of the ulna. This plate will show the extent of the bone which was destroyed.

The point that interests me most is the extensive destruction of the soft parts. The radial artery was intact, but I think the ulna artery was ruptured. The one great thing we have to fear in these cases is, not the failure of the bone to reproduce itself, but traumatic gangrene on account of the extensive destruction of muscular tissue.

The treatment in this case was very simple. The wound was not dressed at all; a single fold of gauze was laid over it and a system of continuous irrigation instituted. The dead tissue all sloughed away and the wound granulated. The restoration of function is almost complete in the wrist joint but the fingers are a little stiff, produced by their long-continued extended attitude. This case is illustrative of just what nature will do if measures are taken to prevent extensive necrosis of soft tissues.

The other case is one of considerably more interest and much greater extent. This is an injury to the leg, produced by the patient, a boy, having been run over by a very heavy wagon. The muscles were pulled from the tibia almost half of its extent and the tibia itself was destroyed. This case was treated in the same manner as the one previously reported. I do not know how the boy came out so far as function is concerned.

Here is a photograph of the boy's leg a little later and you can see the reproduction of bone which has taken place. As in the other case, no dressings were applied.

The fluid use for irrigation was saturated solution of acetate of aluminum. This constant irrigation acts in two ways; by supplying an antiseptic effect, and by establishing a current, which sweeps away the obnoxious material.

DR. J. B. BULLITT: What temperature water did you use?

DR. G. A. HENDON: About warm enough to be comfortable. This continuous irrigation was kept up about four weeks and no dressings or splints were used until a thoroughly granulating surface was obtained. Dr. Percival took care of these cases for me and he can, perhaps, supplement my report.

DR. IRWIN ABEL: The boy is at present under my charge, and I think the doctor is to be congratulated on the result, as the reproduction of bone appears to be about complete. I expect to let him walk about in the next few days. This case exemplifies what a tremendous amount of bone may be resected in children.

DR. J. G. SHERRILL: I am glad to have heard the report of these

cases. It recalls to our minds the fact that this method was in use years ago, and should not have been abandoned. One thing must be borne in mind, however, and that is the fact that water trickling on an unprotected wound from an elevation, even a drop at a time will produce great suffering. The protection of the wound by a fold of gauze is, therefore, of the greatest importance.

In regard to the reproduction of bone, we all know that in young persons there is a marked tendency to reproduce bone provided the wound is kept sterile. Some years ago I reported a case of resection of the tibia of a man fifty odd years of age. He had a bone disease which had been going on for twenty years or more. Some time after the operation the bone was reproduced and the wound practically healed, with the exception of one portion, which persisted in remaining open. After awhile he developed typical epithelioma, and the limb was amputated at the thigh. An examination was made of the bone after this operation, and the amount of reproduction which had taken place was surprising. The repair was almost complete, and only the portion where the malignant disease had developed had broken down.

DR. J. B. BULLITT: The report of these cases was certainly very interesting, and illustrates the fact that it is much better to save than to destroy. Of course, had amputation been employed the suffering would have lasted only a few days instead of several weeks, but the limbs would have been destroyed. This would have been the easy way, but not the right one.

The method of continuous irrigation is a well known one, but I wish to take exception to what Dr. Hendon said in regard to the solution employed. I do not believe that the antiseptic nature of the solution plays an important part in cases of this kind, but that the temperature of the water has a great deal to do with it, as well as the mechanical effect of the stream in producing drainage. A chemical antiseptic solution is very objectionable, because I believe that any solution which is strong enough to kill bacteria is strong enough to kill tissue, and some of it is apt to be sacrificed. Therefore, saline is distinctly preferable to any sort of antiseptic solution in cases of this character.

DR. H. N. LEAVELL: I agree with Dr. Bullitt in regard to the solution used, and I believe that plain hot water will accomplish as much good as any solution. Some time ago I frequently amputated fingers and hands in certain kinds of injuries, but lately I have adopted the plan of amputating only where there are comminuted fractures of the bones which are clearly detrimental to the healing of the tissues, and I have been rewarded by much better results. I think the doctor is to be congratulated on his success in these cases.

DR. J. K. FREEMAN: Speaking of irrigation recalls the method practiced by the late Dr. Yandell in cases of this kind. One day a man was brought to him whose hand had been caught in some machinery and very

badly mangled. The man was taken home, a tin foot tub was filled with water, an alcohol lamp put under it to maintain the temperature of 100 degrees, and his arm and hand immersed in the water. It was kept immersed for about a week, when it was taken out and dressed in the ordinary manner. There had been a great deal of destruction of the tissue, but nature replaced nearly all of it and the patient had a fairly good hand as a result. In the treatment of very many of these cases I am very partial to salt solution. It is a great deal better for cleansing wounds than plain water. We all know that in cleansing a raw burnt surface with plain water a great deal of pain is caused, but if a salt solution is employed it washes away all the secretions and seems to dissolve them.

DR. JENKINS: In regard to the use of antiseptic agents in solutions for continuous irrigation in cases of this character, it does not necessarily follow that because such antiseptic agents have the power to killing bacteria they will injure the tissue. Such agents as acetozone, etc., which belong to the peroxide of hydrogen series, are, I believe, absolutely harmless to the tissues.

DR. OSCAR BLOCH: I remember Dr. Yandell's method, which Dr. Freeman mentioned, of supplying constant heat by immersing the injured part in a tin foot tub full of water with an alcohol lamp under it, and I also remember a result he once obtained in a badly crushed finger. It looked to me as if it should have been amputated, but he saved it. The finger, however, atrophied, and was absolutely useless, and it would have been much better to have cut it off at the beginning.

Several of my patients who were injured while in the employ of the L. & N. R. R. have told me of Dr. Griffith's method, which he has used for many years, and very successfully, of keeping the crushed limb immersed in a weak antiseptic solution in a metal basin, to which heat was supplied by means of a gas burner or a lamp.

From the patient's description of the injury sustained and the appearance of the healed part shown me, I must say that Dr. Griffiths gets some remarkable results.

DR. PERCIVAL: I had the pleasure of seeing the two cases reported by Dr. Hendon, and of watching them day by day. To appreciate the cases fully and to know how wonderfully nature has restored the parts, it is necessary to have seen the patients when they were first brought to the institution.

The piece of gauze placed over the wound served the double purpose of breaking the force of the stream and of spreading the moisture over the entire wound. From time to time the stream was moved from one part to another, so as to keep the whole wound in a moistened condition.

The little fellow who was run over left the hospital about a month ago, and now seems to have regained almost the entire use of the limb. He got out of bed one day, and it did not seem to hurt him in the least. I believe he will have complete functional activity of that leg.

The method of irrigation employed was very simple. In the absence of anything better, we simply used an ordinary fountain syringe, which we placed above the wound at an elevation of about two feet. To regulate the stream we used an ordinary pair of hemastatic forceps; we had no screw.

DR. G. A. HENDON: I would like to impress upon your minds the fact that the reproduction of bone in this case is a matter of secondary importance. The main point is the preservation of the soft parts and the prevention of traumatic gangrene which is what we have most to fear in these cases. The greater the injury to the soft parts the greater the jeopardy to the limb. We all know that almost an entire bone can be *resected* and it will be reproduced, but the restoration of the soft parts in extensive injury is what I claim for this method.

In regard to the solution best suited for this method, it is my firm belief that the virtues of saline are purely negative. The best solution is one that has positive virtues, and has no toxic influence on the tissues. Such solutions do not exist, and, in my limited experience, acetate of aluminum has proved to be the most satisfactory. The fact that it will kill bacteria has been established; it is stimulating, and has a hardening influence, as well as some astringent qualities. It is absolutely non-toxic to the tissues, and can be used constantly for an indefinite period without harm.

In the method of immersion the wound is for the first two hours in an antiseptic or auseptic fluid, and after that in a pool of filth, so to speak, of its own creation; secretions of a septic nature constantly emanating from it. In continuous irrigation these secretions are carried away as rapidly as they form.

The formula for saturated solution of acetate of aluminum is 38 grams of acetate of lead, 24 grams of ordinary powdered alum to 1,000 cc. of water. You will find it much better and more convenient to get the acetate of aluminum, but if it cannot be obtained the solution can be extemporized in this manner.

DR. BLOCH: Dr. Manning having thoroughly spoken of diagnosis in nephritis, I will not take your time by a repetition, and will only call your attention to a few new ideas now being advanced, particularly those of Van Horden. He states that perfectly healthy persons may pass albumen in their urine, and that the detection of albumen in occasional specimens of urine does not prove that the patient has nephritis.

He also takes up the subject of diet. The old idea of giving nothing but milk attracted his attention, and as he has a very extensive clinic he experimented, and watched the patients very closely. He always obtained an all-day's specimen of urine for his examinations. He chose several patients and gave them nothing but milk in certain quantities, and kept it up for a week, making daily examinations of the urine, and keeping a record of the amount of albumen contained therein. The next week he

put the patients on a diet of vegetables, or a mixed diet of vegetables and meat, and come to the conclusion that the urine contained more albumen at each change in diet than at any other time. He found that on the milk diet several of his patients were running down in strength, although the amount of albumen in the urine considerably decreased. Then he took them off of the milk and put them on a very generous diet, and found that, while the amount of albumen increased, the physical condition of the patients became much better. He, therefore, believes that the patient should be put on the diet which best suits his physical condition.

He states that some persons on a milk diet have as much or more albumen in their urine than one on a generous diet; that no general rule can be applied.

I wish to tell you of a drug which is not very often used, but which is very beneficial in reducing the amount of albumen and in building up the physical condition—that is, lactate of strontium, in 15 or 20 grain doses three times a day. The results obtained from the use of this drug are remarkable.

Speaking of uremia recalls two very unpleasant cases which I had. In one of them the patient was a very stout man, weighing probably 220 pounds. He had an umbilical hernia, which demanded operation. I examined his urine two or three times before operating. The operation was not a prolonged one, and the man recovered very nicely from the effects of the chloroform, but three days afterward he had complete suppression of the urine, and in spite of all the remedies I could administer he died. I consulted several older surgeons to learn their experience in cases of this kind, and was surprised to hear that uremia and suppression of the urine follow operations on or about the umbilicus more frequently than any other class of operations.

One night last winter I was called by a brother physician in consultation, and he asked me to bring my catheters, etc., as he had a man who could not pass urine. I found the patient comfortable, except that he vomited occasionally and complained of being chilly. I percussed him thoroughly, but found no retention of urine. I introduced a catheter, but I obtained no urine. His history was that a few days before he had consulted his physician for general pains all over his body and a slight temperature. Just at that time the city was having an epidemic of grippe, and the doctor diagnosed his case as grippe, sent him home to bed, and gave him some of the coal-tar products, protected by caffein. Two days afterwards he was called, and found him in the condition described. We did everything we could for that man; gave him 10 to 20 grain doses of calomel, and applied hot bags to the kidneys, and were rewarded at last with a return of the flow of urine. Three days after I saw him he passed ten ounces of urine, which was found to be full of albumen, but contained no casts. The next day he passed twenty ounces, and the next day twenty-four ounces. I did not see him after the day on which he passed

ten ounces of urine, as I thought he was on the road to recovery, until his doctor called me, saying he was not doing very well. When I saw him his temperature was 97° and pulse 64. I have always regretted that I did not perform a decapoulation on him.

DR. W. A. JENKINS: In the discussion of a paper of this character before a medical society the best and most definite results are obtained by sticking strictly to the subject in hand. The subject of nephritis is a broad one, and the essayist, recognizing this fact, has confined himself chiefly to the diagnosis of it.

The types of nephritis which we are most frequently called upon to diagnose are, broadly speaking, acute and chronic types. In the first of these the group of symptoms are generally sufficiently characteristic and distinctive to render diagnosis a matter of no great difficulty. It most frequently occurs in the young, and generally follows an attack of some one of the exanthemata. The symptoms which draw our attention to this condition are, generally speaking, dropsy, anemia, slight fever, and urinary symptoms. The dropsy occurs first about the head and face, and later about the hands and feet. Anemia is marked, and the urinary changes are characteristic, the urine being concentrated, scant and highly colored, containing blood showing both albumen and casts.

In regard to the diagnosis of chronic nephritis, it is oft-times necessary to have a history of the case, or to catch the patient in an acute exacerbation to enable us to make a diagnosis. Take a man in middle life, for instance; he will often clear up, and upon examination there will be no evidence of any kidney condition. Therefore, the history of the case is oft-times necessary, or we must catch the patient in acute exacerbation. Later these individuals take on the changes which are so characteristic of chronic nephritis at about the second or third stages. These stages are marked by the following symptoms: Cardio-vascular and urinary; often the second sound is accentuated; left ventricle hypertrophied; frequently the arterial tension is high, some arterio sclerosis and occasional casts or albumen are present. Patients in the second and third stages of Bright's disease have long periods without casts or albumen, but sooner or later they take on the cardio-vascular changes.

Uremia is an accident which may arise in any type of Bright's disease, or even in simple congestion of the kidneys. It is simply a side issue, and the symptoms may arise in any type of Bright's disease.

It is never to be inferred that albuminuria is physiological. This opinion has long been abandoned by the best medical men in the world. Albuminuria is no longer held to be harmless or accidental. Of course, albuminuria may be present without the kidney showing any coarse pathological lesions. Still, the presence of albumen in the urine is always indicative of some unhealthy condition, and the underlying cause should always be carefully sought.

DR. MEYER: There are one or two points I should like to mention.

One is that in chronic types of albuminuria the amount of albumen in the urine is no indication of the severity of the case.

Referring to Dr. Bloch's remarks, I believe that most physicians have the wrong idea about giving diets. Because two persons have the same disease is no reason why they should be put on the same diet. It is wrong to think that a robust man would thrive on a diet suitable for a thin man. The patient should be considered and not the disease.

DR. KENNEDY: I believe it is our duty as family physicians to recognize, as soon as possible, the first symptoms of chronic nephritis. The point to which I attach greatest importance, after examination of the urine in determining whether nephritis exists, is the condition of the pulse. Whenever I find a high tension pulse I at once suspect the presence of nephritis. Disturbances of the circulatory equilibrium are also of importance. Edema of the limbs, rapid pulse, etc., are all symptoms which strongly suggest nephritis. Whenever they are present an examination of the urine should be made. However, finding albumen in the urine does not necessarily indicate the presence of nephritis; it may be due entirely to extra renal conditions. Tube casts should always be looked for, and these, together with high tension pulse and albumen, are always positive evidence of the presence of chronic nephritis. Tube casts are the single pathognomonic symptom of nephritis. When they are present we are able to tell our patient positively that nephritis exists. In making an examination we should look not only for albumen and tube casts, but for other symptoms, such as edema, heart disturbances and variation in the quantity of urine, which will aid us, to a great extent, in determining the stage of the nephritis.

DR. LEAVELL: I am sorry the essayist did not mention the diagnosis of that type of nephritis resulting from scarlet fever, namely, exudative nephritis. In this variety tube casts and albumen are not found except in the latter stages, and a great deal of damage may be done in the earlier stages of this disease before it is recognized.

Dr. Bloch opened up a wide field for discussion in speaking of the manner of treating and handling these cases after the condition has arisen, which is as important as diagnosis. I agree with him that many of these patients should not be given fluids. There may be considerable high tension, as mentioned by Dr. Kennedy, when it would be distinctly detrimental to administer normal saline solutions which, by increasing the tension, would also increase the trouble in the kidneys. Of course, when we have fixed high tension, it is manifestly improper to administer a great amount of fluid. We should look after our patients, and keep them up to the standard.

I have had several cases of suppression of the urine following scarlet fever, and they have not been at all satisfactory. I believe when a kidney has been damaged by the toxins of scarlet fever to such an extent as to

give rise to complete suppression of the urine, it is almost impossible to establish secretion in that kidney again.

DR. KELLER: I wish to report one case of uremia which I had recently. Some time ago I was asked by Dr. Jacob to see a case of confinement for him. I went to see the lady about half past eight in the evening, and found her having preliminary pains; there was scarcely any dilatation of the os. About half past eleven o'clock I was called again, and found the patient having more severe pains, but she still had a very rigid os, and did not anticipate that I would be needed before the next morning. About seven o'clock I was called again, and I answered that I would be there in a short time. A short time later I was again called by telephone and told that the woman was having convulsions. I started to her home, and on my way there stopped and asked Dr. Jacob to go with me. We found her having terrific convulsions. The os at that time was about the size of a dollar. I dilated it, and delivered the child inside of an hour. The convulsions continued, and her pulse was very rapid. Pilocarpin had some effect but the convulsions did not cease; she would get almost black in the face and look like she was going to die. As a last resort we concluded to bleed her and opened up a vein, but there was so much gestation that the blood would not flow and when it did come it was simply black. We finally, however, drew off nearly a pint of blood and by that time it was flowing very freely. The pulse dropped to 100 and she had no more convulsions. She has now recovered completely and both Dr. Jacob and myself attribute the relief obtained to the bleeding.

DR. BLITZ: In a large number of cases of nephritis the first symptom noticed is a puffiness of the eye-lids upon awakening in the morning, and I believe that more cases are discovered by oculists than by general practitioners. Of course, we cannot undertake to examine every one who comes into our office, and can only discover these cases when some of the symptoms present themselves. As to treatment, I believe we can do the most good by allowing the kidney to rest and causing elimination through the intestinal tract and through the skin.

DR. MOREN: One point in the diagnosis of chronic interstitial nephritis is the ordinary sick headache. The frequency of the attack diminish and the majority of the people lose them altogether as they grow older, but I have seen cases where these headaches continued in later life and the patients developed chronic interstitial nephritis. So when I meet with a continued sick headache in a person beyond fifty or sixty years of age, I always look for kidney complications.

THE
AMERICAN PRACTITIONER & NEWS.

"NEC TENUI PENNÂ."

F. W. SAMUEL, A. M., M. D., A. D. WILLMOTH, M. D., } Editors. S. B. HAYS, M. D., Managing Editor,

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Editorial.

Gastric Digestion. In view of the fact that many of the truths concerning gastric digestion were made known to us by the patient researches of Beaumont, and have been recently incorporated into text-books upon this subject, the following inferences of Wm. Beaumont concerning gastric digestion, by Dr. Herbert W. Rich, in the *Detroit Medical Journal*, will be of much interest to those interested in this subject:

Rich concludes his article as follows: "In brief, it may be stated that the following general truths concerning gastric digestion were made known to us by the patient researches of Wm. Beaumont:

"1. That the quantity of food taken is commonly in excess of the wants of the system.

"2. The relative digestibility of various articles of diet. In fact, his researches may be said to be still the chief basis of our knowledge on this subject. He gives a long list of foods whose digestibility was noted and timed—the first and almost the only accurate observation of this nature.

"3. The deleterious effects on digestion of stimulating condiments and alcohol.

"4. Accurate observations of the movement and temperature of the stomach during digestion.

"5. Correct estimate of functions of mastication, insalivation, and deglutition.

"6. Existence and characteristics of a specific gastric juice.

"7. Appearance of inside of stomach during process of digestion.
"8. Contribution of the digestive action of bile.
"9. Disposition of fluids in stomach."

International Medical Congress.

I am pleased to announce that final arrangements have been perfected for the tour of the American party to the international Medical Congress, at Lisbon, April, 1906. The party will sail on Saturday, April 7, on the North German Lloyd steamer "Koenig Albert" for Gibraltar, visiting Algeciras, Seville, Cordova, etc., spend a week in Lisbon during the Congress, and returning to New York on Wednesday, May 9. This trip may be made comfortably in a first-class steamer both ways, all expenses paid, including board and lodging while in Lisbon, and entertainment at other points, for $300.00.

A number of side trips are being added, and ticket will be good returning through Europe if desired at a slightly increased cost.

Following is a list of those who have joined the party:

Frank P. Norbury, M. D., Jacksonville, Ill.	Nicholas Senn, M. D., Chicago.
Lewis S. McMurtry, M. D., Louisville.	Fenton B. Turck, Chicago.
W. F. Southard, M. D., San Francisco.	Jos. M. Mathews, M. D., Louisville.
J. D. Griffith, M. D., Kansas City, Mo.	Ramon Guiteras, New York City.
A. Vander Veer, M. D., Albany, N. Y.	W. T. Corlett, M. D., Cleveland, O.
Jas. E. Moore, M. D., Minneapolis, Minn.	J. B. Murphy, M. D., Chicago.
R. T. Morris, M. D., New York City.	C. H. Hughes, M. D., St. Louis, Mo.

Dr. John H. Musser (Philadelphia) is Chairman of the National American Committee, and Dr Ramon Guiteras (75 West Fifty-fifth Street, New York City) is the Secretary, to whom all applications for membership and communications in regard to the presentation of papers should be addressed.

All those who contemplate the trip are cordially urged to make reservation with the writer at once in order to secure desirable berth on the steamer and good hotel accommodations. Program of the itinerary upon request.

CHAS. WOOD FASSETT, St. Louis, Mo.

METCHNIKOFF'S PHAGOCYTOSIS THEORY. Behring's communication to the Congress on Tuberculosis, held recently in Paris, has again revived Metchnikoff's phagocytosis theory and has called attention to the various drugs capable of causing this phagocytosis. Among the latter iodine holds the first place, for it causes the greatest mononuclear reaction, thus enabling the organism to better resist both chronic and acute affections. Natural products containing iodine were used even before iodine itself was discovered, and, indeed, it is in this form that

the medicament is best tolerated. In iodalia iodine is present in a form resembling the natural product, but stronger. It consists of pleasant-tasting granules, each teaspoonful of which contains one grain of organic iodine. It has been proved that this form of iodine is twenty times more active than the iodides, besides being more easily tolerated.

NOTES.

DR. SAM BROWN HAYS is in Philadelphia at the Wills Hospital, where he has been for several weeks, devoting his time to the study of the eye, ear, nose, and throat. Dr. E. S. Allen is also in Philadelphia at the University of Pennsylvania, where he is doing research work. They will return about December 1st.

THE recent meeting of the Kentucky State Medical Society held in this city was a most decided success. The attendance was very large, and those who came were more than repaid by a most excellent program. Dr. T. Z. Aud, of Cecelia, Ky., was elected President, a timely and fitting honor to one who has served in the rank and file of this Society for many years.

Recent Progress in Medical Science.

GENERAL MEDICINE.

IN CHARGE OF

GEO. B. JENKINS, M. D.,

Professor of Pediatrics and Neurology Ky. School of Medicine.

THERAPEUTICS.

IN CHARGE OF

OSCAR C. DILLY, PH. D., M. D.,

Professor of Materia Medica and Pharmacology, Kentucky School of Medicine, and Louisville College of Pharmacy.

GENERAL MEDICINE.

The Epilepsies.—Under the above caption we mean only such cases as present no external evidences of an organic base or associated disease presenting organic lesions, of nerve tissue or pressure thereon, thus reducing it to the much hackneyed "neurosis," and thus circumscribed it becomes a difficult matter to sift the enormous mass of even latter day literature upon this protean condition or state. Probably the first thing to emphasize is that one must, in treating the epileptic state; remember that there are two things to consider: (1) The underlying epileptic basis, and (2) the fits or spasmodic seizures which occur at greater or

lesser intervals, and with more or less severity, remembering also that the patient is just as much an epileptic between the fits or spasmodic attacks as during them; then it would necessarily follow that our efforts at cure should be toward alleviating the underlying conditions rather than merely to controlling the fits. As to the etiologic factors, whose name is legion, it is to be remembered that out of this host of so-called causes there must first be this cerebral disease or deficiency, which allows the lesser causes to precipitate the harsher expressions of epilepsy. If such conditions as scars, phimosis, eye strain, and other overestimated causes of nerve strain or fag are causes, why, then, is not epilepsy many times more common than we find it in actual figures, for thousands of persons of all ages, sexes and conditions present one or more of the above mentioned conditions, yet never develop epilepsy. So, in searching for the etiologic factors, whilst these being found should be carefully weighed and given a place in the pathogenesis, still a further search must be made for a more adequate if less openly apparent cause, such, for instance, as heredity, injuries or deformities, infections and intoxications, and last, but not least, the age of the patient must be taken into consideration, and whilst developing the history remember that not only infantile convulsions, but night terrors, bed-wetting, and evidences of loss or lack of self-control or moral or mental force give a damning weight to the history. One should go a step farther, and cast out of consideration epileptiform conditions, *i. e.*, spasmodic attacks or convulsive seizures dependent upon some gross organic lesion.

"Syphilitic epilepsy," for example, is not epilepsy at all, but nervous syphilis. "Senile epilepsy" has no place in this category, being but the external evidence of degenerative changes incident to old age.

Leaving out the symptomatology, with which all are so familiar, and the underlying pathology, which is as yet so uncertain, we pass to the prognosis.

One should never give an unqualifiedly favorable prognosis in the epilepsies. The best that can be said is that a few cases get well. Life is shortened, and worse even than this is to be feared, the terminal dementia, the epileptic insanity and psychic states, in which the patient may develop suicidal or homicidal tendencies.

As to the management of the epileptic state the things most to be impressed—aside from the removal of irritants, etc., ordinarily emphasized—is the passing of drug medication as a specific or sole treatment, and its relegation to a position inferior in importance to regiminal management as it can be procured in colonies and institutions devoted to handling such cases, which is by far the most preferable method of dealing with this class of sufferers. If, for any reason, such proves impossible in a given case we must endeavor, in so far as practicable, to pursue such methods in the home management as are used in these institutions. Briefly, we must secure the best hygienic surroundings, freedom from

annoying people or circumstances, plenty of sleep, fresh air and exercise and agreeable occupation; mental and physical diversion also must be afforded. The most careful attention to detail in all the various methods pursued; the dietary must be changed, allowing the sufferer plenty of vegetables and such, but very little meats, and the less pastries and sweets used the better, always giving a light meal at night. Thorough elimination must be secured, and intestinal antiseptics and digestants given as required; the skin must be kept clean, and its glands in the best condition, hydrotherapy being invaluable for this end.

Concerning drugs, some must be given, and experience has proved the bromides to be superior to all other forms of medication, and it matters very little which one is chosen, as sooner or later all will produce similar disagreeable results, which, however, can be greatly ameliorated by careful management. The most acceptable method of administering the bromides is to give them in combination with sodium, glycerophosphate. Some prefer bromipin, which is a solution of bromine in oil of benne.

As has formerly been emphasized, changing and combining the various salts is productive of advantage, and the administration of such agents as atropia, chloral, adonis, vernalis, horse nettle, etc., in combination with the bromides, will permit of a considerable reduction in the size of the dosage. Similar results are claimed for the use of sodium bromide in place of sodium chloride as a seasoning for the food. To prevent or remove the disagreeable effects of bromism, the use of sulphur, hot baths, alkaline diuretics, arsenic, calcium sulphite, and, in severe cases, some substitute drug temporarily in place of the halogen salts are of benefit.

The treatment should be suspended one or two days a week, and must be kept up for at least two years.

Cerebral Arterio Sclerosis.—Those changes, senile or pre-senile, of the arterial supply of the cerebrum classed under the term arterio sclerosis, in which, owing to the changes in the vessel walls the "second heart action" of their muscular layer is lost, and because of which and the lesions found in the intima, there is a loss of elasticity which renders these vessels so liable to rupture under any strain, or in older subjects with weakened heart action allows a stasis, even a clotting of the contained blood stream, producing a variety of symptoms of an untoward nature. Fortunately, nature rings an alarm bell as these changes proceed, and if the warning is properly interpreted, and means for their relief speedily instituted, the graver results can be postponed. So it behooves the physician to give a thorough examination to these subjects, and to hold himself in readiness to combat the onward march of this progressive disorder. In the management of these cases nothing can be done to replace the loss of vital rubber, so our only hope is to check, if possible, the opera-

tion of the underlying cause, so as to make amends for the damage already done. In making an effort in this direction the subject must be removed in so far as practicable from strains, shocks, and any form of excitement. There must be no dissipation, no undue exertion, no exposure to inclement weather; in a word, the utmost care must be practiced. No overfeeding, no over-consumption of even the blandest of fluids, plenty of sleep, moderate exercise, warm clothing, and personal and domiciliary cleanliness secured.

As to treatment, keep the skin active by judicious bathing (caution must be observed in recommending hot baths to these cases). The kidneys must be put in good condition, and careful attention to the bowels advised; the best purgative agents are salines with an occasional mercurial, discountenancing the use of "liver pills," as their use is not followed by the same benefit as the agents named.

The remedies which give the best results are nitroglycerin, ammonia and potassium iodide, given separately or in combination, probably the most satisfactory method being to give: ℞ Ammon. chlor., gr. ij ss; kalii iodid., gr. v; F. E. taraxici qs., ℥j, at a dose, to be given after meals. Then give nitroglycerin in gr. $\frac{1}{100}$ three times daily. If there is any indication for general tonic medication the Elix. Nitroglycerin Comp. ℥j doses may be given instead.

If there be any evidence of syphilis, lead, alcohol, or rheumatism, suitable remedies can be given to control these causes, as so long as they continue to operate other treatment will not avail much.

Localization.—*Cerebral*—It was formerly taught that the motor area of the cerebral cortex was located in the Rolandic area, comprising both the ascending frontal and the ascending parietal convolutions. In 1901 Grunbaum and Sherrington reported a series of investigations in higher apes, which they claimed showed the motor area to be limited to the parts anterior to the Rolandic fissure. In 1905 Mills and Frazier report results of 138 observations of faradic stimulation in the Rolandic area, and as a result practically confirmed the statements of Grunbaum and Sherrington. This area, as mapped out by these gentlemen, comprises the ascending frontal convolution (precentral gyrus), with an anterior extension into the middle and inferior frontal convolutions bordering the inferior frontal fissure.

Cord.—There is a failure of evidence to prove the exact path in the cord for the conduction of pain and temperature sensations, and whilst it is probable that such an office is subserved by Gower's antero-lateral ascending tracts, still the assumption is by no means a certainty.

Spiller reports a clinical case presenting lesions of these tracts which gave rise to analgesia and thermoanesthesia in the parts below.

Similar sensory phenomena are present in the condition denominated "syringo-myelia," where the lesion is in the central area of gray matter

of the cord, in which region the anatomists have demonstrated are found the parent cells of the fibers composing these tracts.

THERAPEUTICS.

Chloretone.—Chloretone is rapidly gaining the recognition it deserves. Its value as an antiseptic, as a local anesthetic and especially as a hypnotic has been conclusively demonstrated. Chloretone resembles chloral in some respects, but possesses certain advantages, chief of which are a lesser liability to irritate the stomach and the absence of a tendency to depress the circulation. Its chief action is that of a sedative to the central nervous system. Very large doses have been swallowed without producing any untoward symptoms, so the claim can be made with confidence that the drug in medicinal doses is non-toxic. In addition, its non-irritant properties, together with the fact that it exerts little effect upon the heart, certainly commends its use as a hypnotic in preference to chloral. As a rule the hypnotic effect is obtained by the use of smaller doses than are necessary in the case of chloral. It is a remedy of great service in cases of nausea, gastric irritation and vomiting, conditions it relieves by paralyzing the terminations of the sensory nerves in the mucous membrane of the stomach. It is, in fact, the very best remedy to counteract the distressing nausea of sea-sickness; five grains administered at intervals of four hours during the first day or possibly the first two days of the voyage will tide the "*mal de mer*" victim over and have the effect of rendering the latter days of the voyage comfortable, even in heavy seas. Chloretone is likewise serviceable in allaying the unpleasant nausea-symptoms following chloroform or ether anæsthesia; here the dose should be fifteen grains administered two hours after the operation. Owing to the fact that chloretone paralyzes the terminations of the sensory nerves when it is applied locally, frequent use is now being made of it as a local anæsthetic. Together with menthol and the various antiseptic oils, all in solution in liquid petrolatum, it affords relief in irritable conditions of the nasal, pharyngeal and bronchial mucous membranes. In addition to its local anæsthetic properties chloretone has some power as an antiseptic, which of course enhances its value as an ingredient in the above mentioned solution intended for application to inflamed mucous membranes. In concentrated aqueous solution its action is that of an efficient local anæsthetic on wounded surfaces and mixed in the dry state with an equal quantity of powdered boric acid it forms an excellent dusting powder for wounds, bed-sores, ulcers, etc.

The principal use of chloretone is to produce rest and sleep in cases of insomnia and in practically every form of nervous excitement; in delirium, even in mania and convulsions. Its action is especially good in delirium from fever.

Chloretone occurs in white crystals with camphor-like odor and taste. It is only sparingly soluble in water; warm water will take up about one

per cent. but on cooling a portion crystallizes out leaving a saturated solution of about 0.8 per cent. strength. It is soluble in alcohol and in glycerine, but the best way to administer the drug is in powder, or if the taste is objectionable, in capsules or wafers. The dose as a hypnotic is from five to twenty grains.

Camphoric Acid.—Camphoric acid is now an official drug duly recognized by the new pharmacopœia. The revisers acted wisely in accepting this drug as one of the additions for official recognition. Its place in therapeutics is firmly established. It has many uses in medicine, but it is especially prominent as a remedial agent in combating the night-sweats of consumptives. The claim can safely be made that the use of no other remedy is followed by results so beneficial as follows the administration of camphoric acid in controlling the profuse night-sweats of pulmonary tuberculosis. The controlling influence is also exerted in sweating from other causes. Locally, its action is that of a mild antiseptic. In one per cent. solution it is useful in the treatment of pharyngitis and laryngitis; in the same strength solution it has been used with benefit as a bladder irrigation in the treatment of chronic cystitis. Internally administered, camphoric acid gives good results as an intestinal disinfectant, proving beneficial in the treatment of diarrhœa resulting from intestinal fermentation. The dose for internal administration is from 10 to 30 grains, usually in powder or wafer. In combating profnse sweats it is well to give full doses. When employed in the treatment of night sweats camporic acid should be given about two hours before the time the sweat usually occurs. If the sweats occur in the morning the drug must be administered late at night, as it is quickly eliminated in the urine.

Picric Acid.—Picric acid is of little value in medicine for internal administration, but applied locally, in saturated aqueous solution, to burns, its value can scarcely be estimated. Could this solution be applied immediately or within a few minutes after the accident in cases of burns the percentage of fatalities would be materially lessened. It allays the pain at once, is antiseptic, and moreover, excludes the air through its chemical action, which might be likened to a tanning effect. The solution should be applied freely, keeping the burned surface wet through the medium of cotton or gauze compresses soaked with the liquid. An outer covering of rubber tissue or oiled silk will tend to keep the dressing moist and occasion the use of a smaller quantity of the fluid.

Picric acid, in aqueous solution, locally applied by means of compresses, is also employed successfully in the treatment of eczematous and copiously weeping affections of the skin. It should not be applied in the form of powder, as its action is that of an irritant in the concentrated state.

Euquinine.—Euquinine is meeting with increased favor, particularly in the East. It is used quite extensively in New York, where it is

probably best known. Euquinine is said to possess the virtues of quinine without its bitter taste and without inducing ringing in the ears and other objectionable secondary symptoms. It also has a considerable advantage over quinine in the treatment of children in that it is tasteless. It must, however, be administered in substance; solutions of euquinine are decidedly bitter. Its therapeutic value is highly praised by various writers as a remedy in the treatment of malaria, influenza, neuralgia, migrain, fever occurring in tuberculosis, pertussis and many other conditions. In whooping cough it is recommended that the treatment should be instituted as promptly and energetically as possible, in which case, the claim is made, the affection may often be suppressed within a week. The treatment consists in giving two doses of the drug daily, ranging from 3 to 10 grains, according to the age of the child.

In the ordinary therapeutical uses to which quinine is put, it not infrequently occurs that a patient is met having some idiosyncrasy for the drug. In such cases euquinine appears to be the ideal substitute.

Theocine.—(*Synthetic Theophylline.*)—Natural theophylline is an alkaloid possessing strong diuretic properties and found in tea leaves. The natural alkaloid is, however, found only in small amount and the small yield has precluded its use in medicine, but its synthetic production, under the name of theocine, has made its employment as a valuable diuretic possible. It is now manufactured on a large scale in Germany and enjoys the distinction of being the first instance of the successful production of an alkaloid on a commercial scale by strictly synthetic methods. Theocine is regarded as one of the best diuretics and acting quickly. At times it is not borne well by the stomach; this contingency may be obviated by avoiding its administration on an empty stomach, and by restricting the dose to two or three grains. The average dose is five grains, and the maximum dose should not exceed eight grains. Theocine should not be prescribed as a powder on account of the stomach affect, but rather in the form of a solution. Other than an occasional gastric disturbance, theocine seems to be quite free from secondary effects.

Guaiacol.—Guaiacol is one of the chief constituents of creosote and familiar as a substitute for creosote in the treatment of pulmonary tuberculosis. That it has any specific action on the tubercle bacillus is questioned, but as it is eliminated by the bronchial mucous membrane it frequently does good by diminishing the cough. Given internally in medicinal doses, its action is that of an expectorant and intestinal antiseptic. Guaiacol is an excellent remedy, diluted with three or four parts of glycerine, locally applied by means of painting it over the scrotum, for the relief of orchitis. Pain is promptly allayed, and the swelling gradually subsides. The frequency of application depends much on the sensitiveness of the skin; the applications are usually borne well if made every other day.

Of great interest is the report of its use, locally applied, in the treatment of variola. Ridge employed it in the proportion of one part of guaiacol in eighty parts of olive oil, applied at intervals of four hours to the affected skin. Merck, in summing up the report of Ridge, writes that as a result of this application the disagreeable pruritus disappeared rapidly and even in such a grave form of the disease as that presented by variola confluens, the pustules dried comparatively rapidly, generally before they had matured; those that matured, suppurated but slightly or healed without forming conspicuous marks. The application also had a beneficial effect upon the fever, caused a marked diminution of the fetid discharges, and mitigated the intensity of the odor.

Hexamethylenamine.—Hexamethylenamine is the title under which the new pharmacopeia recognizes a condensation product obtained by the action of ammonia upon formaldehyde. This product is better known under the various trade names, urotropine, uritone, formin, aminoform, cystogen, etc. It is unfortunate that the pharmacopœial title is so unwieldy, but usage will make it familiar, and moreover, the title is correct representing as it does the true chemical nature of the product. Hexamethylenamine occurs in odorless, colorless, lustrous crystals, having a sweetish, afterwards bitter taste, and soluble in about 1.5 parts of water. Its chief value as a medicinal agent depends upon the fact that when administered internally it is excreted in the urine, and is there partially decomposed into formaldehyde, which exercises an antiseptic action in the bladder and urethra. It is partly excreted unchanged. The drug is successfully employed as an antiseptic to the genito-urinary tract; its most frequent use being in the treatment of gonorrhœa and is especially valuable when involvement of the posterior urethra occurs. Administered prior to the introduction of sounds or operations upon the urinary tract, the drug is of great value in that it renders the urine aseptic. It is recommended as a solvent for uric acid, and is valuable in the treatment of pyelitis, cystitis, urethritis and phosphaturia. Urine loaded with pus, urates and phosphates, is rendered clear and acid in reaction through its use. It is also highly recommended as a urinary disinfectant in typhoid fever and various writers have found that the drug is a suitable prophylactic for nephritis arising from scarlet fever. Small doses administered at the beginning and continued throughout the course of scarlet fever, have been successfully employed in warding off the occurrence of nephritis.

Hexamethylenamine should be given in solution, in water or carbonated water; when given in capsules it should be washed down with a liberal drink of water. The average adult dose is from 3 to 10 grains; in fact, larger doses than ten grains should not be administered, as excessive doses occasionally give rise to hematuria, attended with pains in the neck of the bladder and in the urethra.

BOOK REVIEWS.

A Syllabus of Materia Medica.—Compiled by Warren Coleman, M. D. Published by Wm. Wood & Co., 1905 edition, is a handy little volume of about 200 pages, convenient pocket size and well bound.

The author states that the book is an attempt to assist the memory as much as possible by condensing the facts, repeating the doses and by grouping the drugs in various ways. In this the book will certainly prove successful. The chapter on toxicology is brief but very instructive, as is also the chapter on minor toxic actions, including contra-indications and indications for stopping or diminishing dose of drug. The arrangement of the subject-matter is admirable and reference to the facts embodied in the book is easily and quickly made. O. C. D.

A Text-Book of Chemistry.—By Dr. William Russell Jones. Published by P. Blakiston's Son Co., 1905.

The author has developed nothing new in either treatment or subject matter and while the work will answer for a beginner in chemistry, it is too meagre in detail for a more advanced student. Important processes like "Crysolite Sodium Carb. process" and the more recent "Contact Method for Sulphuric Acid" are omitted. The text is based upon a system of teaching which the author has successfully followed for nine years and he has endeavored to include all that is needed in chemistry for students of medicine, dentistry and pharmacy. Students of medicine and dentistry will find the work valuable, but the student of pharmacy requires a more complete text-book. The author's selection of illustrations, while good as a whole, is marred by those figuring the various kinds of casts at the closing of the book. O. C. D.

How to Study Literature.—A guide to the intensive study of literary masterpieces by Benj. A. Heydrick, A. B. (Harvard), Professor of English Literature, State Normal School, Millersville, Pa. Third edition, revised and enlarged. Hinds, Noble & Eldredge, 31 West 15th Street, New York.

The above is a most valuable contribution. It takes a prominent classic and treats it as a type, a representative of a class, so that the study of a few books may open the way to the appreciation of many. Figures of speech, the object in writing a book, classifications of books, and all phases are treated. With this inexpensive book one can cover much ground in standard literature without as much expenditure of time as is generally made. Its value then is great for time must be considered by many, as well as systematic reading leads to better appreciation of literature.

Lea's Series of Medical Epitomes.—Edited by Victor C. Pedersen, M. D.

Hollis' Epitome of Medical Diagnosis.—A Manual for Students and Physicians. By Austin W. Hollis, M. D., Attending Physician to St. Luke's Hospital; to the New York Dispensary, etc. In one 12mo volume of 319 pages, with 13 illustrations. Cloth, $1.00, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Dr. Hollis' volume on Medical Diagnosis, is the fifteenth of this series. It naturally does not claim originality, but it embodies an earnest effort to give a clear, accurate, compendious covering of the essentials of its subject, presented with a due sense of the relative importance of its various branches. Diseases and abnormal conditions are taken up in regular sequence, and physical and clinical signs and symptoms are clearly pointed out with full explanations of their significance. In addition to physical methods, the author gives directions for laboratory investigations. blood tests, bacteriological and chemical examinations, etc., and as one goes carefully through the book the wonder grows at the enormous amount of clear-cut, modern, well-arranged information which has been compressed between its covers. Its worth is far in excess of its price, $1.00.

A System of Physiologic Therapeutics.—Edited by Solomon Solis Cohen, A. M., M. D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, etc. Vol. VI. **Dietotherapy and Food in Health.**—By Nathan S. Davis, Jr., A. M., M. D., Professor of the Principles and Practice of Medicine in the Northwestern University Medical School, etc. Philadelphia, P. Blakiston's Son & Co., 1012 Walnut St.

The first part of this useful volume is devoted to principles of diet. The composition and characteristics of each food stuff is carefully and practically presented. It is by far the easiest book to read upon dietetics that the writer has seen. The second part is devoted to diet in disease. It is full of the essential practical points. The author accomplished his object in making a practical book upon dietetics.

The Urine and Faeces in Disease.—By Hensel-Weil and Jelliffe. Lea Bros., Philadelphia, Publishers.

This is a valuable, concise and admirably arranged book treating the subjects in a very practical way. The addition of tables of comparison between the Metric System of weights and measures and the English System is a reminder that rare study and reform books should include tables showing the exact relation between these two systems, and this habit should be persisted in until the English System becomes a relic of the past.

The book deals freely with the urine in health and disease. It is to be noted that the quantitative elimination of urea is regarded as of very uncertain value, yet it states in one place that the amount normally excreted per twenty-four hours is thirty grammes, while on the next page the excretion in health per one litre is stated to be from ten to twenty grammes. Twenty grammes is generally considered the minimum amount in health, so that an excretion of only ten grammes would certainly be cause for the deepest concern. Cryoscopy is rated highly and is considered by the writers as far superior to urea determination as indi-

eating renal efficiency. The portion of the book dealing with faeces is especially interesting and the bacterial flora is extensively depicted. The illustrations are, for the most part, such as we are familiar with—but they are very appropriate and clearly show the points intended.

VERNON ROBINS.

Beauty Through Hygiene—Common-sense Ways to Health for Girls—By Emma E. Walker, M. D., member of the New York Academy of Medicine, etc. First edition. New York. A. S. Barnes & Co. 1904.

The author has given us a most entertaining and instructive volume regarding the physical life of the young woman. It should have a place in every home library and be read and digested by every woman member of the household.

NEW WINTER SEASON, 1905-1906.

The Beautiful Sapphire Country.

To the man whose imagination is fed with facts and fortified with observation, the southern portion of the United States will always seem the favorite child of Omnipotence and its hand maiden—Nature. Practically every resource that ministers to the wealth and greatness of a people has been lavishly placed within its borders.

Though the Creator of this full-bosomed magnificence dwells neither here nor there—but everywhere—we like, in all reverence, to call these Southern States indeed "God's country." One who knows the South realizes how, after material gifts had been so generously bestowed, the designing power completed its work by dotting it liberally with those imperative auxilliaries of modern civilization—resorts, summer and winter. In the case of the South these resorts have proven not only protectors of our people's health; they are adding now and they will add substantially in the future to our actual wealth.

The Florida resorts need no detailed eulogy at this date. They have won already thousands of wealthy Northerners and Southerners from the lure of the European spa or the call of the Riviera. A more wonderful conquest, and one which should interest the South, is that of the radiant Sapphire country, that Eden of the North Carolina mountains, with which the word "Toxaway" has become inseparably identified. Its beauties and its health-compelling qualities have been open to civilization for only a few years, relatively; yet "Toxaway" means to a host of Southern and Northern people today recreation and recuperation under conditions as ideal as can be arranged by the co-partnership of man and Nature.

The six hotels under the management of the Toxaway Hotel Company, with Mr. J. C. Burrowes at its head, have been instrumental in this rapid achievement. The Sapphire country itself has done the rest. The hostelries have been artfully located, getting the wide benefits which come from altitudes

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"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way: and we want downright facts at present more than anything else." —RUSKIN.

Original Communications.

MENINGITIS.*

BY PHILIP F. BARBOUR, A. M., M. D.,

Professor of Diseases of Children, etc., Hospital College of Medicine.

LUMBAR puncture, as devised by Quincke, has enabled the microscopist to determine very exactly the intrinsic nature of the causes of meningitis. It has also widened our conception of meningitis so that we now look upon inflammations of the meninges as determined by the character of the organism which is present.

The classic division into acute leptomeningitis, tubercular, and cerebro-spinal meningitis must be recast and broadened to embrace our present knowledge of the pathology. We recognize the type known as cerebro-spinal meningitis as due to the Weichselbaum diplococcus intracellularis meningitidis. The tubercular variety is also fairly clear-cut. But the old name leptomeningitis embraces the distinct forms depending upon the infection by the pneumococcus on the one hand and the various streptococci, staphylococci, etc., on the other. At present it is difficult to differentiate clinically between the infections by the pneumococcus, the streptococcus, and staphylococcus, except by bacteriological examination of the spinal fluid. Practically, such close differentiation at present is of little value, because the treatment has not advanced so rapidly as our pathologic and bacteriologic knowledge. Though the promises of the serum treatment are very roseate, they have not yet been realized, and we have no therapeutic agent which is of any help, but it is no less our duty to post ourselves on the diagnosis, for the recognition of meningitis is often difficult by reason of the vague symptoms presented, and therefore mistakes in diagnosis may be made. There are

* Read before the Louisville Clinical Society, October 17, 1905.

also several diseases which simulate meningitis very closely, and yet offer a comparatively hopeful prognosis. Thus pneumonia of the apex is so prone to exhibit marked meningeal symptoms that frequently the real *fons et origo mali* is overlooked. Finally, meningitis may be a true complication or a sequela of various diseases. Rarely do we find meningitis as a primary disease. Possibly always it is secondary to some other condition. But oftentimes the advent of meningitis changes an otherwise mild and unalarming case into one of the gravest.

A discussion of all varieties of meningitis would take too much of your valuable time. We may mention, however, that inflammation of the dura mater, pachymeningitis, is far more common in adult life, whereas the inflammation of the pia mater, such as acute leptomeningitis, tubercular, cerebro-spinal, and other forms of meningitis, are far more common in the young.

I desire to lay especial stress upon the diagnosis of the simple meningitis, or, according to the old nosology, acute leptomeningitis.

The organisms which produce meningitis gain access to the meninges most frequently through the middle ear. Traumatism is responsible for many cases, and undoubtedly infection has occurred through the cribriform plate of the ethmoid bone. The nose and the accessory sinuses are frequently the atria for infection. It is believed that tubercular infection, and probably others, may take place through the blood. But the anatomic relationships of the middle ear place it in a more direct etiological connection with the onset of meningitis. The presence of pus in the middle ear is a menace to the mastoid cells, which are so easily infected and which so frequently pass the infectious material on to the lateral sinus, producing a thrombosis, or to the dura mater, which in turn transmits the inflammation to the pia mater. There is another route, which is not so well known nor so easily recognized. The attic of the middle ear consists of a very delicate, thin, translucent shell of bone, which may very easily be destroyed by the pus organisms, or the original fœtal cartilaginous condition may have persisted into childhood, or there are in some cases fissures in the cartilages, which remain, owing to failure of proper and normal development. Any of these abnormalities would afford an easy ingress to the pus cocci to the base of the brain, with a consequent meningitis. The possibility of the bacteria's being carried along the sheath of the auditory or the facial nerve should also be borne in mind. In all cases of middle-ear disease great importance should be attached to proper treatment and the securing of proper drainage in the purulent cases. In certain cases of mastoid involvement, and, indeed, in cases of inflammation confined to the middle ear, meningeal symptoms arise which deceive even the very elect, but which entirely disappear upon a free incision of the drum membrane. The importance—I should say the danger—of middle-ear inflammations in the young is not sufficiently appreciated.

When inflammation attacks the meninges it involves principally either the cortex over the convexity, or the base, or extends down into the spinal canal, thus furnishing a different symptomatology corresponding to the three accepted clinical types.

There are certain symptoms which may be said to result from such inflammation, such as headache, vomiting, delirium, and pyrexia, and which occur in all types of cases.

Again, the symptoms vary with the time and progress of the disease, and also with the location and extent of the inflammation. Thus certain cases have the symptoms of meningeal irritation, while others, in which there is an involvement of the gray matter also, will show rather different phenomena.

Perhaps as useful an arrangement of the symptoms is to divide them into those which are present early and are the result of irritation, and those which develop later and are the result of pressure from the increased outpour of cerebro-spinal fluid, and also from lymph formation.

Irritation of the convexity, studying the symptomatology as arising from the various centers of the brain as they lie posturely, will exhibit delirium when involving mainly the frontal convolutions; convulsions, from the motor convolutions; visual, auditory, and sensory disturbances, from involvement of their various centers.

A more minute study of these may prove instructive. Irritation of the visual center in the quadrate lobe produces photophobia, an early and often pronounced symptom. The pupils are contracted unequally, and spastic squint, internal squint, follows upon irritation of the center for the third nerve.

Auditory sensitiveness is increased so that unusual noises, or usual noises exaggerated at all, terrify the child greatly, as if the sound had been magnified. Squeezing the leg, or sometimes touching the bed, evokes cries which indicate pain and which are explainable upon the hypothesis of an increased and exalted sensitiveness.

Now compare with these the later manifestations, when the very bulging fontanelle and the lumbar puncture show greatly increased pressure within the cranial cavity, and we shall find pressure symptoms almost exactly opposite to those detailed above.

Instead of delirium, stupor, sopor, advancing into coma, proclaim the final catastrophe.

Pressure produces its well-known effects in varying convulsions and paralyses.

The functions of the optical center are destroyed, photophobia ceases, the contracted pupil becomes widely dilated and reacts little, if at all, to the light. The internal spastic squint changes to the external paralytic squint. Oscillation of the pupil and nystagmus, with ptosis, may ensue.

The auditory center loses its acuity, so that shouting, singing,

clapping the hands, etc., excite no response, the citadel of thought is overpowered, and stimuli from the outer world make no impression upon the dormant ego.

Even general sensation is lost, so that no kind of stimulus applied to the skin or the extremities arouses any conscious response.

The other symptoms, such as marked constipation, vomiting, scaphoid abdomen, retraction and rigidity of the nape of the neck, the vasomotor disturbances of the circulation in the face and the extremities, the retention, with incontinence—all of these are useful and confirmatory symptoms, and seem to occur in all types of meningitis.

There are several newer symptom groups which are also helpful and to which I will call your attention briefly.

Kernig's symptom is the inability to extend the leg fully when the thigh is flexed to a right angle. In order to obviate error, it is best to keep one leg and thigh extended and make the experiment with the other.

Leichtenstern's symptom is a lightning-like contraction of the muscles of the body when a bony prominence is struck rather sharply.

Percussion over the lateral ventricles when effusion has occurred will give rise to a tympanitic percussion note. Some care has to be exercised to place the head in exactly the right position in order to secure trustworthy results.

Skeer's sign is a light cloudiness at the papillary margin of the iris. It is considered a valuable confirmatory symptom, but one which it is difficult to recognize. The expression of the patient is often very thoughtful and determined. There is intellection and character displayed far beyond the age of the child. They look like little old men and as if they had the minds and the mental development of the adult.

Lumbar puncture is one of the most valuable of all the aids, but its value is lessened somewhat by the fact that it is often difficult to secure permission from the parents for this apparently cruel, painful, and dangerous procedure. The fluid collected is clear and colorless in tubercular meningitis, very rarely colored. In serous meningitis the cerebro-spinal fluid will be colorless, but in purulent meningitis it will be cloudy and purulent. In cerebro-spinal meningitis the fluid is at first cloudy and contains numerous lymphocytes, but later it becomes clear.

Microscopical examination will usually reveal tubercle bacilli in the tuberculous cases, the diplococcus meningitidis intracellularis in the cerebro-spinal form, and in purulent meningitis, streptococci, staphylococci, etc.

Tubercular meningitis produces rather different symptoms from the type described above in that the lesions are chiefly basic and therefore express themselves differently, and the organism is so much slower in its development and growth that the symptoms are rarely so acute. While simple meningitis is usually fatal in from two to six days, tuber-

cular meningitis runs a much longer course. One of the most alarming and confirmatory symptoms is the history usually elicited that the disposition of the child has been changed so that its ordinary games, etc., do not seem to entertain it, and it will often sit for a long time paying little attention to its surroundings.

But, following out the plan adopted earlier in the paper, the symptoms of tubercular meningitis that arise from its localization will be principally connected with the involvement of the pneumogastric nerve. The irritation of this nerve produces great slowing of the pulse, and there is also an alteration of the respiratory rhythm. After the irritability of the pneumogastric nerve is exhausted there will be that marked rapidity and irregularity of the pulse which follows on removal, so to speak, of the governor. Then the pulse jumps up from 60 to 70 to 120 to 140, and yet within a short time it returns to its slow, rather weak beat.

The full discussion of tubercular and cerebro-spinal meningitis would occupy too much time, and I have desired to call attention only to the few points in differentiation, so as not to tax your patience and kindness unduly.

A few words in a general way are necessary. There are many diseases which develop meningeal symptoms. The chief of these are pneumonia, typhoid fever, and influenza. Of course, they may be complicated by a genuine meningitis, but if attention is paid to the orderly development of the symptoms as enumerated the diagnosis, as a rule, is not difficult. And yet it is a wise rule never to make the diagnosis of meningitis if there is any disease present which may have meningeal symptoms.

It is well to bear in mind the various causes which may possibly generate a meningitis. Some of these have been mentioned, as otitis and rhinitis, empyema of the frontal sinuses or the antrum of Highmore, traumatism or simple concussion, various operations about the skull, suppuration or abscesses about the calvarium, even boils and furuncles of the scalp, erysipelas, and various acute diseases, such as pneumonia, typhoid fever, influenza, scarlatina, measles, pertussis, nephritis, syphilis, and, finally, there are many cases in which no cause can be determined.

The prognosis is very grave, because up to the present time no therapeutic measure has been suggested which has exerted any demonstrable good results. Blistering has been abandoned. Iodoform inunctions have not fulfilled their first promise. Ice-caps give some relief to the pain, and morphine, potassium bromide, chloral, and chloroform have their indications.

Lumbar puncture will relieve the acute pressure and may tide the case over. Certainly in pneumococcus infections they are indicated, for the life of that germ in the body is very short, and it is possible to pro-

long the existence of the patient until the virulency of the pneumococcus has been exhausted. The injection of various antiseptic solutions in the canal have not proven satisfactory. In fact, we can sum up the treatment in the one word, symptomatic.

It is very curious that the germ which is most feared by the laity—the Weichselbaum diplococcus—and the one which is most quickly fatal is also the one which offers the best hope of recovery, and a recovery without those distressing nervous and mental lesions which often make the recovery worse even than death.

DISCUSSION.

DR. IRWIN: There is little left to discuss, as the Doctor has covered the field so well of the various forms of meningitis—what is known as simple meningitis, cerebro-spinal meningitis, tubercular meningitis, and all the other gitises. I saw a case about the latter part of last spring of a gentleman living in another city, who had erysipelas of the head. His eyes were closed and his ears were four times their original size. The neck was swollen and the swelling extended down the spine to the dorsal region. The case developed meningitis. The question was how the meningitis came about. There was no pus—nothing but erysipelatous invasion. We came to the conclusion that the way in which the infection occurred was through the veins of Santorinus and the lateral sinuses. There was some protrusion of the eyeballs, showing an intense engorgement of the cavernous sinuses. He died. As a matter of fact, these cases always die. There are not many cases of any form that get fully well, but in the ordinary form of cerebro-spinal meningitis we have more hope after the first month or six weeks of the disease. The first attacks of the disease in a given locality are most severe, and as the people become inured to the poison they are less malignant. I have never seen a fulminant case of cerebro-spinal meningitis get well. I have seen cases of meningitis caused by the pneumonic bacillus, and I have seen from time to time cases following la grippe. Dr. Barbour saw one case in consultation with me last year in a little child.

Opium, in the early stages of cerebro-spinal neningitis, is, in my judgment, by far the best treatment, and it acts in this way: When the disorder comes on we have a rapid effusion of serum poured out, and if we see the case early opium in large doses will arrest this. Within the first few days we have considerable hope of lessening the severity of the disease and of saving the life of the patient. In my opinion, there is no drug comparable to opium in the treatment of meningitis. Unless the case is a fulminant one we have some hope; but, if a fulminant case, no treatment will do any good; they go from bad to worse. They are taken suddenly and are unconscious in half an hour to an hour. They have a slow, feeble pulse, and are cyanosed from the beginning. There is loss of expression, and in 36 to 60 hours we find that they are dead.

But the other forms of the diseases are less severe, and I would recommend to every one the use of full doses of opium, which relieves the pain, causes sleep, and arrests the flow of serum.

DR. CHEATHAM: How is the disease spread?

DR. IRWIN: It is generally communicated, in my opinion, through the atmosphere. It would look that way. When cases are in existence you will see others occur two or three miles away from the point of original infection. You will frequently see in one house two or three cases. I have seen seven in one house. It does not affect everybody. It is not every one that can take the small-pox.

DR. MARSHALL: I enjoyed the paper very much, and I also enjoyed Dr. Irwin's remarks. I am glad to hear of a case where erysipelas has been associated with, or meningitis has followed it. I have seen plenty of erysipelas, and I have never seen any symptoms other than a little wandering of the mind, temporary in character. I remember the first case I ever saw. The people were much exercised over the danger of its attacking the membranes of the brain. I have never heard of a case occurring that way, except this case reported by Dr. Irwin.

DR. GRANT: I was greatly interested in the paper and have always felt a good deal of trepidation when called to treat one of these cases. Cases of tubercular meningitis, in my experience, do not get well. We do sometimes see, when the disease is not epidemic, what we call sporadic cases, and those are the cases where, if we can make a diagnosis soon enough, we can do some good, although 30 per cent. or more of these cases will die. They are found among those who do not have good sanitary surroundings. It is important to make a careful examination in every case in order that we may begin treatment early. I think if the patient is put in a quiet room that can be made dark and can be well ventilated, and cold applications made along the spine with ice-bags in the beginning, and opium given in large doses, we may cure some of these cases. I agree with Dr. Irwin that there is nothing but opium that we can trust to save the life of the patient. It should be given in large doses rapidly and, of course, closely watched, and in that way we will do a great deal of good, if seen in the first few days of the attack. The patient should be supported by a generous diet and alcohol, if it acts well. Sometimes alcohol is a disadvantage, and that should be watched closely. If the pulse is improved, its use should be continued. While convalescence is slow, we do sometimes get good recoveries.

DR. LEAVELL: Regarding the connection between erysipelas and meningitis, it might be well in this connection to report a case that I had. There was a history of syphilis in the case. The mother when three months pregnant contracted syphilis. She had an attack of erysipelas, and I used the anti-streptococcic serum and she responded very quickly to the treatment, but when the child was born it was born hydro-

cephalic. Whether there was any connection between that and the attack of erysipelas or whether entirely due to the syphilis is a question.

I think if we can make a diagnosis early enough in meningitis we can accomplish a good deal by lumbar puncture. I have seen a number of cases treated in that way in the beginning, and I believe that good was accomplished. I noticed several cases some three or four years ago in the Boston Infant Asylum treated in that way. In several instances there was an amelioration of the symptoms for a time by lumbar puncture. In this connection, I think it wise to take the specific gravity of the fluid, and I would say that I believe when the specific gravity is over 1,000, and we find more than 2 per cent. of albumen, it is safe to assume that there is a beginning meningeal involvement. I do not think we can place much confidence in the Kernig symptom, because it comes and goes. It is merely indicative of lack of tone of the muscular system, and we know that that may come once in a while during these attacks. I do not think we can place much confidence in that.

Another point in regard to the diagnosis is oscillation of the pupil. We find when the head is extended the pupil is dilated and when flexed the pupil becomes contracted. That is a symptom noted that I think is worth looking into.

If the diagnosis is made early we can do more than when we find localized paralyses. Lumbar puncture is a simple procedure, and no one should hesitate to use it.

I believe I understood Dr. Barbour to say that hyperpyrexia occurs in all forms of meningitis. I have seen cases in which there was an absence of temperature in tubercular meningitis. I saw two cases a few years ago at the Presbyterian Orphan Asylum with an absence of temperature throughout the attack. I believe that the temperature is a symptom that we cannot place very great value upon, because there are so many things that might enter in the temperature production, particularly in children.

The treatment is unsatisfactory. Ice-bags and ice cold applications are of service. I do not know that opium does a great deal of good. I have used it in several cases, and I believe that the primary congestion which the opium causes in the brain is sometimes harmful. I do not believe that the bromides do much good. I believe that lumbar puncture is best and has cured more cases, if taken early enough, than any single treatment.

DR. DABNEY: I was much interested in the paper and would like to speak from three standpoints. In the first place, the ocular symptoms might be dwelt upon. Dr. Barbour referred to the pupillary conditions —the failure to respond to stimulus of light, the dilated pupil in the latter part of the disease, and inequalities of the pupils. I did not hear him mention paralysis of the external ocular muscles, which is common.

I have seen several cases where the external rectus muscle, which is supplied by the sixth nerve, was paralyzed, and I have seen some cases where the motor oculi nerve was affected in cases of meningitis. So I think it is well to test the external muscles of the eye. Most of these patients are scarcely old enough to complain of double sight, but, by carrying an object before their eyes, particularly in an older child, you will see the eyeballs move in certain directions only. I think that this is an important symptom.

Optic neuritis is often found, particularly in meningitis that involves the base of the brain. This would be a strong corroborative symptom of meningitis. The eye should be examined for tuberculosis of the choroid. Tuberculosis of the choroid is more common, however, in acute miliary tuberculosis than in simple tubercular meningitis. It does occur in this disease, too, and with the presence of other symptoms would be a very valuable evidence.

A word or two about the ear. I am glad Dr. Barbour mentioned the meningeal symptoms that occur with suppuration of the middle ear when the meninges are really not involved, or not to any serious extent. We have decided meningeal symptoms, relieved by a free opening of the drum membrane. He has already called attention to the cases in which meningitis occurs from suppuration of the middle ear.

Finally, a word or two about syphilis of the meninges. I will in this connection report a case that has interested me much in the last three weeks. The case was briefly this: That in July I was called to see a boy of about eighteen years of age who had well-marked mastoid disease. The history was that the disease of the ear had lasted since January. He had not consulted a physician. The boy told me that he had gonorrhœa at the time. He was below par in general health. A diagnosis of mastoid disease was made, and he was sent to the infirmary the same afternoon and operated on the next day. There was nothing unusual in the operation; there was more extensive bone disease than is generally present. I was disappointed and surprised to find three days later that the boy had a paralysis of the seventh nerve. I hardly think the nerve was injured during the operation, as the paralysis did not occur for a few days after. He slowly recovered, but did not do well. The mastoid gradually healed up, and the ear ceased to suppurate.

Two weeks ago I had a telephone message from the mother of the boy, saying that he had a good deal of pain in the ear. I had not seen him myself for some time, so I asked the gentleman looking after him to go and examine him. He told me at that time that he found little suppuration in the wound and no tenderness about the mastoid. At the time the boy left the infirmary he broke out with a syphilitic eruption. He went to the infirmary some time in the month of June.

To come back to the history: Two weeks ago, the day after this doctor had seen him for me, the grandmother telephoned me that the boy

had a horrible pain in his head. I felt alarmed and went up to see him. I found the boy lying on the sofa rather stupid. He was easily aroused, but could not answer questions. If asked how old he was he would answer, "single" or "double." The pupils were irregular, but there was no disturbance of the ocular movements.

At that time he did not localize the headache, which was evidently severe, to any one particular portion of the head. He said it was all over the head. It was no worse on the side we operated on than on the other. I explained to the father that this trouble indicated a disturbance of the brain or its coverings, that it might be syphilitic or might be mastoid disease, and that the boy should be removed to the infirmary and anti-syphilitic treatment pushed. I was in doubt as to whether to open the wound and see if a sinus communicated with the brain. The boy was sent to the infirmary the same afternoon, and he was given mercurial inunctions and fifteen grains of iodide of potassium four times a day. For the first two days there was no improvement, and in one respect his condition was more grave. He began to refer the pain to the side of the head operated on; no ocular symptoms, except sluggish pupils.

The father positively refused to allow me to open the wound. I told him that, in view of the fact that he referred the pain to the side of the head that had been operated on, it would be best to open up the mastoid thoroughly and see if there was any communication between the sinus and the brain cavity. He left the infirmary after being there three days. By the following Tuesday or Wednesday he was practically normal. Whether he will remain so is another question. We considered it a doubtful case. We know that brain abscesses show improvement and then get worse. His present condition would indicate that he had a syphilitic meningitis. His pulse went down to 55, and he had no temperature. The chief features in the case were the intense headache, the disturbance in speech, and the irregular pupils. It appears, so far as we can now judge, that he had a syphilitic meningitis that responded to treatment. His pulse has now gone up to normal, and the prognosis is rather good.

At first glance, one might be surprised that syphilis of the brain should occur so early. Two or three years ago I saw an article by some writer bringing out clearly how early in syphilis disease of the nervous system occurs. I was impressed at the time by a case that occurred to my knowledge. Keys says that syphilis of the brain is not rare within six months after the infection, and Morrow says that it occurs in the first three months. The case was of interest because it was difficult to determine whether it was syphilitic meningitis or an infection from the ear.

DR. SATTERWHITE: It occurs to me that I would like to know of the members whether or not, with the exception of tubercular meningitis, the injection of saline solution would not be the proper treatment in cases of meningitis.

THE TREATMENT OF ENLARGED PROSTATE.

BY JOHN R. WATHEN, A. B., M. D.,

Professor of Surgery in Kentucky School of Medicine; Surgeon to St. Anthony's Hospital, Louisville City Hospital, and Kentucky School of Medicine Hospital, Louisville, Ky.

THE relief of the symptoms resulting from the hypertrophied prostate in old men has in the past been most difficult and highly unsatisfactory, for the reason that all palliative measures in a short time fail, and no radical procedure had been introduced which was entirely successful. The frequent and painful urination, the continued use of the catheter, the residual urine, and the resultant cystitis, seem to the writer to demand surgical intervention in the great majority of cases. Granting that the physician has exercised much care in the treatment and the instruction of his patient, it is undoubtedly a fact that these old men become very careless in following the physician's instructions, and sooner or later reach the stage which not only demands operation to save life, but also places the patient in a bad condition to derive the greatest benefit from surgery. In no class of cases would early surgical intervention be of more value than in the enlarged prostates, and to-day when operated upon at the most favorable time, with the new technique developed, should give a very low mortality. But when infection has taken place we have the risk increased many fold. Having, therefore, taken the position that as soon as the enlarged prostate causes pain and frequent urination, and perhaps necessitates the use of an occasional catheter, it is better to use radical than palliative methods, the writer will devote this paper largely to a discussion of the choice of the methods of removal of these hypertrophied prostates.

L. S. Pilcher[1] says: "It is of interest to note, in surveying the literature of the subject, that among the many different methods of attacking the prostate which have been proposed by different surgeons, practically equally good results are reported to have been secured by the most diverse methods, by men who had become specially skilled in their application." Nevertheless, we have about reached a time when we should make deductions from the combined clinical and pathological contributions to literature, and begin to formulate views as to the choice of technique to be employed in the removal of the enlarged prostate.

What we need is not to adopt a method which has been successful in the hands of a few especially proficient, but a technique which will be the safest, the easiest, and offer the best results as to permanent cure of the patient.

The enlargement of the prostate, according to Deaver,[2] "occurs in two main varieties—one variety, the glandular or adenomatous overgrowth, constituting the majority of cases; while the fibrous enlargement constitutes the minority, and even at times approaches more nearly

in type to prostatic atrophy, or to sclerosis of the neck of the bladder, or is at least conspicuous by the relatively slight enlargement compared to the magnitude of the symptoms produced."

Based on these generally-accepted views as to the pathological anatomy of the prostate, should be our operative methods for its removal.

In those large, soft adenomatous prostates, which rise up into the bladder and are often found to have a pedunculated middle lobe, it is generally conceded that they are easiest removed by the suprapubic route, while the dense fibrous variety, situated low down in the perineum and often associated with them, an inflammatory condition, had better be enucleated from below by the perineal route.

The intermediate type, and the writer believes this to be the most common variety, where we have a medium-sized enlargement of the two lateral lobes, is the prostate which seems to cause the greatest divergence of opinion as to its method of removal. In very doubtful cases, where we wish to find the best method of approach, the conclusions of Watson[3] may be followed to advantage: "That the best way to determine whether any individual case was or was not suitable for the perineal operation was to make a digital exploration of the actual conditions present through the posterior urethra, by means of an ordinary external perineal urethrotomy incision, as the first step of the operation." "That at least twice out of three times the gland would be found to be readily removable by the perineal urethral incision just mentioned, and that in the other third of the cases the surgeon would proceed to go on to do a suprapubic operation at once, the perineal urethrotomy exploratory incision not only interfering with its performance, but, on the contrary, aiding it, and also supplying additional drainage afterwards." While the cystoscope and other methods are recommended for examination of the prostatic enlargement, such procedures do not meet with general approval and are only to be employed in special cases and by those who are very proficient in the use of such instruments. It is the writer's experience that the less instrumentation before operation the better for the welfare of the patient.

Having determined the type of prostatic enlargement we have to deal with and the method of its removal, by the suprapubic or perineal route, we now are confronted with the question of the best technique to employ.

The suprapubic route, which has been so popular in England, due largely to the excellent work of Freyer, of London, who utilized the methods of McGill and Fuller, certainly has much to recommend it, especially in those types of prostates where a large adematous mass with middle lobe involvement projects high up into the bladder. Mr. Freyer[3] is inclined to think that all hypertrophied prostates are best removed by this method and has only found one case out of 110 reported in which he was unable to enucleate the mass. Deaver,[2] in discussing

the choice of operation, says: "The suprapubic operation is in certain cases (I think the majority) in every way preferable to that through the perineum," and again he says, "the preferable route for total enucleation of the prostate is the suprapubic."

White,[4] after discussing the suprapubic route, says, "As to the other methods of prostatectomy—the perineal, the 'combined,' etc.—there can be no doubt that they have often given good results in the hands of some surgeons, and are still the methods preferred by a number of able workers in this field." "There are probably cases for which they will always be found specially suitable, but at present it appears to me that past experience does not justify the expectation that the results of prostatectomy by the perineal route will compare favorably with those of the total enucleation above described."

The few quotations from such able advocates of the suprapubic method show the positive stand they have taken, and it is with interest we read, as I will later quote, equally dogmatic assertions by the champions of the perineal route.

While there has been much dispute of late as to the priority of the suprapubic operation, yet the essential principles are practically the operation as done by Freyer.

Briefly, this consists of the introduction of a catheter into the bladder and this viscus irrigated with some mild antiseptic solution. An incision is then made just above the pubic bone and carried down to the bladder, which is now opened. With the finger-nail or scissors an opening is made through the bladder mucous membrane over the hypertrophied prostate, and with two fingers in the rectum, or through a perineal incision the prostate is pushed up from below and the enucleation begun by blunt dissection with the fingers.

Freyer says that large adenomatous prostates "frequently shake themselves loose" and are very easily removed. It is probable that in the majority of cases the prostatic urethra is removed with the hypertrophied mass, notwithstanding the assertions of some operators, who claim that such is not the case. The cavity from which the mass was removed now becomes much smaller, due to pressure of the surrounding structures and contraction of its walls. Hot sponges or douches will usually control the hemorrhage, but if alarming the cavity can be packed with gauze. A rubber drainage-tube is next introduced and stitched to the skin, and if the incision was large a few stitches are needed to partially close the opening.

Some operators favor a drain through the perineum, and if a preliminary incision has been made here before the operation above it will be of advantage in infected cases, allowing through and through irrigation of the bladder.

Deaver[2] says: "It has been pointed out by McGill and Richardson that drainage is really better by the suprapubic wound; for it is a fact

that where the bladder is drained both ways simultaneously, almost all the urine escapes by the suprapubic tube, and that when both tubes are removed, the perineal tract closes first." This last statement has not been the writer's experience, and has only occurred when the lower tube was obstructed with pus, etc.

The perineal route, which has become so popular of late in this country, and has even been styled the "American operation," has so many various procedures that to properly discuss the method each surgeon's individual technique should be considered. The simplest and most rapid operation is that employed by Goodfellow,[5] who describes it as follows: "The patient on the table, the staff is passed. A change is then made to an exaggerated lithotomy position, the legs held by assistants." "A longitudinal median incision, beginning at the scroto-perineal fold, a little over an inch in length, is made and carried to the urethra." "The tissues are then cleared away from the urethra until the membraneous part is perceptable; this is perforated with the knife or finger, the bladder entered, the staff withdrawn, the enucleation begun and completed, this taking rarely over ten minutes, generally about six."

Parker Syms has practically the same technique with the exception that he introduces a rubber ball tractor to aid in bringing down the prostate into the perineum for easier enucleation. Hugh Young employs a more elaborate dissection, and claims by this method to do a conservative operation, preserving the ejaculatory ducts. He introduces a ground staff and then makes an inverted V incision in the perineum, carried only through the skin and superficial fascia, and then divides the central tendon of the perineum and the recto-urethralis muscle, which lies beneath, covering the membranous urethra and apex of the prostate. An incision is now made into the membranous urethra just in front of the prostate and the edges caught with forceps. The staff is now withdrawn and the closed tractor introduced. This is then spread open and gentle traction made downwards and upwards so as to bring the prostate with its posterior aspect well in view in the perineal opening.

An incision is now made on either side of the urethra and the lateral hypertrophied lobes enucleated; also a median lobe can be brought out through one of the lateral openings. If a calculus complicates the case, and this is said to occur in nearly one-third of the cases, the urethra is split with scissors along its left lateral wall, from the urethrotomy wound in the membranous urethra up to its vesical orifice, and the stone removed.

Some operators claim to close the urethra with sutures and then suture up the entire wound, expecting union by first intention. In this latter procedure, a self-retaining catheter is introduced through the penis and allowed to remain until union has taken place. The writer

prefers a technique which embodies many of the good points of those already described and which aims at rapidity, safety, and simplicity. A staff is introduced with the patient's legs extended, and when the legs are flexed upon the abdomen a straight median incision is made down to the muscles of the perineum. The writer sees no advantage, but rather a disadvantage, in elevating the hips with a pillow, as usually recommended, for the reason that the hemorrhage accumulated in the cut does not run out as when the hips are lowered thus obscuring the field of work; also there is much less danger of injuring the rectal wall when lowered, as the operator's fingers are then forced to work in the opposite direction, much aiding in the enucleation of the difficult prostates. Why a transverse incision should ever be used in this operation the writer is at a loss to know, as the straight median incision affords more space than is needed even for the largest prostate, and at the end of the operation is the only type of an incision which allows of a neat closure and convenient drainage at the most dependent part of the perineum.

The central tendon and other structures are now divided after the method of Young; also the urethra opened in front of the prostate. At this stage the technique differs decidedly from Young's method, and a long probe or director is introduced alongside of the grounded staff, and the latter is gently withdrawn. This probe marks the prostatic urethra, and the index finger is next used to dilate the prostatic urethra and explore the bladder, pressure being made from above to aid in bringing down the prostate. At this stage of the operation, it has been the writer's experience to note that when the finger is introduced into the narrow prostatic urethra that this structure will usually burst laterally and the two lateral lobes will almost fall out or enucleate themselves. When this does not occur and the prostate is of a rather firm consistency, Young's tractor is introduced, and by gentle traction downwards and upwards, the prostate is held firmly while it is partly dissected away from the surrounding structures, especially posteriorly.

This is done by blunt dissection, having an assistant place one finger in the rectum to guide the operator. With the finger nail of my index finger or if needed the scissors, incisions laterally are made and the enucleation rapidly performed.

The two structures which we should be careful not to tear or injure are the neck of the bladder and the rectal wall.

After this rapid enucleation, very hot water should be used to check hemorrhage and large bleeding vessels ligated, but this latter is seldom needed. A very large soft rubber drainage tube (about 40 F. and twelve inches long), with open ends and two fenestrations close together, is now introduced just past the bladder neck and sutured to the skin a little above the anus. The prostatic cavities from which the lobes were removed, are now packed gently with gauze, avoiding too tight packing

upon the rectal wall. This gauze is brought out of the wound just above the rubber tube and the wound sutured with several chromic catgut interrupted sutures embracing as much of the deep muscles as possible.

The after treatment is comparatively simple and consists in irrigating the bladder to remove the blood, and prevent the formation of clots. This should be done on an average, every two or three hours during the first twelve hours, as is indicated by the color of the drainage. The tube should drain into a big-necked bottle placed between the legs, and no other dressings added except a small amount of loose gauze placed around the tube.

The gauze packing in the perineal wound is removed in forty-eight hours and the tube in the next day or two. If the patient is in good condition, he is allowed to sit up very early, depending upon how he stood the operation and his general constitution.

Young claims that by his method alone are we able to preserve the ejaculatory ducts, but the reports of many operators employing a different technique, namely, Goodfellow, show that a considerable number of patients have reported the occurrence of apparently natural ejaculations.

Abell [6] has well expressed the writer's views when he says: "The question of operating so as to avoid injury to the ejaculatory ducts, has been rather widely discussed, but to the writer, their preservation seems to be of little moment; granting the loss, health and comfort are of more value to a man than they at the period of life at which this condition demands operation."

Cabot,[7] after discussing the various methods says: "I am convinced, however, where other conditions are favorable, that perineal prostatectomy is the operation of choice."

Syms [8] concludes: "To my mind there is no question that perineal prostatectomy, performed through a single, simple, median incision is the safest and most scientific method which has yet been evolved."

Watson [1] has certainly summed up the question of choice when he says: "It will be seen, therefore, that my chief contribution to the subject of operative treatment was the demonstration of the fact that perineal prostatectomy through an ordinary external perineal urethrotomy incision was readily to be accomplished in a large majority of cases, and that it was the operation of choice because of its lower mortality, but not to be adhered to operation; the suprapubic method having a very definite and distinctly advantageous place, which was, however, in a minority of the whole."

The question of mortality has been discussed by almost every writer upon this subject, and while it will always command attention in any operative procedure, the statistics from the limited number of collected cases can hardly be fully accepted as yet, and a wider experience may materially change the figures presented. It is the writer's firm conviction that when these operations become more general, we will find a

higher mortality rate even with the improvements in technique. The writer hardly endorses the opinion of Rodman [9] when he says: "The mortality of prostatectomy is almost necessarily greater than many of the operators would have us believe." "I have never been able to bring myself to believe that prostatectomy is a simple procedure nor do I believe that the mortality is only two to three per cent."

After the question of mortality, there is no more important one for consideration in the selection of the method of operating on the enlarged prostate, than that of the after results. Among the many sequels of this operation, are those of incontinence, fistulæ, both urinary and rectal, and the loss of ejaculation, the last one having been previously discussed.

Incontinence has followed all the various methods in some degree, but the suprapubic seems to have occasioned fewer cases of this annoying condition. Many times a temporary incontinence occurs and a few months later the patient gradually regains control over his bladder.

According to Ruggles,[1] incontinence is due to injury to the compressor urethræ muscle and not to the neck of the bladder as many have supposed.

Freyer, [10] after discussing the findings in an autopsy of an operated case which died from a complication, says: "It is further demonstrated definitely, that the true sphincter of the urethra (or bladder) is situated at the membranous portion of the urethra."

The treatment of incontinence has received little attention from the operators, who have believed that it was of little magnitude compared with the previous dangerous condition of retention for which it has been substituted.

Wilson [11] reports the cure of two cases which followed prostatectomy and gives his method as follows: "The treatment of the dribbling consists in bladder irrigation, with the addition of filling the bladder full of the irrigation solution, instructing the patient to voluntarily contract his compressor urethræ muscle." "After doing so, he is told to expel a small portion and again shut off, thus dividing the evacuation of the fluid into from five to six conscious and voluntary efforts." "Instructions are given that when the bladder fills with urine, its evacuation should be divided into five or six portions in like manner." "By this method we gradually bring the cut-off muscle up to its normal tonicity and as a result the incontinence ceases."

Urinary fistulæ are a frequent occurrence after the perineal method, but the majority of the cases close in a few weeks. Curettage of the fistulous tract will usually effect a speedy cure. Rectal fistulæ are much more difficult to cure and are probably produced by too tight packing of the gauze against the rectal wall. Some cases may result from injury or tear and others from the low vitality of the patient, with a sluff in the perineal tissues. Often the fistulæ will close when the perineal

incision finally heals up, but for those which persist for a greater length of time, it is advisable to do an operation.

In conclusion, the writer believes that there are distinct indications for the choice of operations in prostatectomy which should be based upon the anatomical and pathological conditions present. Good and bad results have followed both the suprapubic and the perineal routes.

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NEPHRITIS.*

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THE subject of nephritis has been attracting the attention of both medical and laymen since the time when Richard Bright launched it on the ever swelling billows of ills to which human flesh is heir, in 1827, more than three-quarters of a century since; it has been the subject of investigation by numerous scientific doctors, who have handed down to us their opinions; numerous others have written about it who have done no original investigating, and I venture to assert that it has been discussed by every medical society that has outlived its formative period, and still today it is a live subject about which there is something to be learned by investigation and by discussion.

The subject is of such a broad, far-reaching and ever-spreading character that all of its phases could not be approached in a single paper; therefore this one shall be limited to a diagnosis of the disease, a point worthy of our consideration, since some of its varieties, as we are assured by all of our text books, are not even suspected until an examination for life insurance is made, or the victim has an uremic convulsion, which does not flatter us in the least in this day of preventative medicine. The remedy lies in our watchfulness, our alertness, our knowledge of diseases to which nephritis is most often a sequela, and after these diseases the requiring of repeated and careful examination of the urine. I main-

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tain that we should not hold ourselves altogether blameless should a patient that we have treated through one of the exanthematous diseases develop an *unsuspected* nephritis; we should not dismiss a case of this character as cured until we shall have become satisfied that he does not suffer from this sequela.

Among the diseases more frequently followed by nephritis should be mentioned scarlet fever, small-pox, acute endocarditis, acute articular rheumatism, typhus and typhoid fevers, pneumonia, diabetes, measles, erysipelas, pyemia, jaundice, syphilis and malaria, most frequently in the order in which named. Exposure to cold and dampness while the body is warm and perspiring, skin diseases, extensive burns of the skin, pregnancy and the ingestion of poisons, and large quantities of alcohol are recognized as factors in producing nephritis in one or other of its several forms.

It is a general and likewise an erroneous conception, due, in my opinion, to the promulgation of patent medicine literature, that kidney disease manifests itself by pain in the back, whereas such pain is present only in acute inflammatory nephritis, renal calculus, surgical kidney, and possibly in movable or floating kidney, where there is so much displacement as to twist and kink the ureter. Pain in the back along the spine is caused by hysteria or neurasthenia, especially traumatic, spinal curvature, disease of the vertebræ, arthritis deformans, locomotor ataxia, neuralgia, lumbago, and nearly all of the acute febrile diseases, including influenza and tonsillitis, and in case of the febrile diseases the pain may be due to inflammation of the kidneys: pain in the lumbar region is more likely to be due to traumatism, lumbago, rheumatism, gout, debility, fatigue, or abdominal aneurism than it is to kidney derangement, and with pain in the sacral region we should eliminate disease of the ovaries, uteres, testes, rectum, hip joint, and sacroiliac joint, sacral neuralgia, sciatica, and disease of the coccyx before we attribute it to the kidneys. The position of the pain accompanying cystitis and kidney inflammation is at the juncture of the lumbar and sacral regions. Another diagnostic sign of kidney disease with which the lay mind has been impressed by patent medicine literature is the changed and increased quantity of urine voided, but this is not discernible except by measurement, or special inquiry into the subject, so it is inaccurate for us to rely upon the patient's statement in regard thereto unless we know that he has made a measurement of the quantity passed in twenty-four hours. If the patient is a neurasthenic, has an enlarged prostate, or a cystitis from any cause, or has an oxaluria, he may void his urine twice as frequently as is his wont and still pass no more than the normal quantity in twenty-four hours. So much for the pitfalls into which we may fall by lack of due diligence and more thorough investigation, and now we will turn our attention to the diagnosis proper.

There are three cardinal symptoms of nephritis—albuminuria, renal

dropsy and uremia, according to Dr. Tyson, a greater authority than whom we cannot quote; and there is one or more of these symptoms in every case of kidney disease. Albuminuria is the most constant symptom, being present in all renal disease, and it is held by some that an urine that presents albumen for any length of time is proof positive of Bright's disease, while by others it is recognized that we may run across a functional or physiological albuminuria. However, we never find tube casts in functional albuminuria, and there is more likely to be periods in which there is no albumin exhibited in the urine; but even in well established Bright's disease it has been observed that now and then the urine is free from albumen, at the same time exhibiting other evidences of the affection. It is a fact worthy of note that the amount of albumen in a specimen of urine does not always indicate the severity of the kidney affection; for instance, in lardaceous or amyloid kidney we may expect to find more albumen than we would in the parenchymatous, or interstitial nephritis, but the prognosis is no more grave in the former than it is in either of the latter. However, not comparing the waxy kidney disease with any of the other varieties, the amount of albumen is a fair index to the severity and progress of the disease. To clinch the diagnosis of nephritis, where the urine is persistently albuminous, we have only to find the tube casts by microscopical examination of the sediment, and the character of these casts determine the kind of nephritis with which we have to deal.

Renal dropsy does not essentially differ from cardiac dropsy, and is attributable to the same cause—obstruction to the circulation, especially venous obstruction; and it is further explained by the theory that the blood becomes hydremic, and the dropsy is a transudate into the tissues. It is likely that both of these conditions are factors in producing renal dropsy, the former being favored by the latter, mechanically. The dropsy more frequently makes it appearance in the feet, ankles, hands, lower lids of the eyes, and later may become general.

Uremia, a condition peculiar to nephritis, has had a number of theories advanced to explain its causation, but perhaps the only one that has not been attacked or refuted is that of Traube, who attributes the phenomena due to oedema of the brain. The condition, when not ushered on by convulsion and coma, is often preceded by gastro-intestinal symptoms, including headache, nausea, vomiting, dizziness, drowsiness, suppression of urine, impairment of vision or actual blindness, itching of the skin, shortness of breath or uremic asthma, to be followed by convulsion or coma. It is rare for the temperature to go above normal, it is more often subnormal; and the pulse is most frequently slowed before the appearance of the severer symptoms to become more frequent after they have set in; while Cheyne-Stokes breathing is a symptom of the disease and may last a long time. It is not unusual to meet acute mania and delusional insanity in this affection, but melancholia and paralysis

seldom or never. An examination of the urine, chemically and microscopically, when we suspect that a convulsion is of uremic origin should clear up the diagnosis without trouble; and such examination should under no circumstances be neglected where we are called to see a case having had convulsions of an unknown character.

I need merely mention, *en passant*, the relationship existing between nephritis and heart disease, especially hypertrophy of the left ventricle, they often being associated as cause and effect. Too, kidney disease follows valvular disease of the heart for reasons that are easily deduced.

HAST BUILDING, 713 Fourth Ave.

FUNCTIONAL DISEASE.

BY B. F. ZIMMERMAN, A. B., M. D.,

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NOTWITHSTANDING the rapid progress that has been made in the study of the anatomical basis of the morbid processes which we call disease, there are still many dark pages in pathology. We are forced to admit that there are many diseases about the ultimate nature of which we know very little. As we look back over the field of rapid progress, as we contemplate the marvelous achievements of the present, and as we see the new instruments and new methods that are every day being introduced, we turn with prophetic vision to the future of medicine. We know not what to-morrow may bring forth. Light has been let into many dark corners, but there are many more to illuminate. The last hundred years have taught us more about the nature of disease than all the preceding ages. Prevention and treatment have not kept pace with pathology. This could not be otherwise. We must have science before it can be applied. Science has taught us much; it has much yet to unfold. We are no longer content with theories; we demand facts. Theories cannot be abandoned entirely as yet, but we should always remember that they are *theories* and can only be of service until the real truth is ascertained.

The simpler the organ the more completely does it come within the scope of our limited comprehension. We easily understand its functions and readily determine the structural change underlying a disturbance of those functions. The more complex the structure the greater the difficulty of determining these facts. Hence it is in disease of those highly-organized structures that the pathology is most obscure.

Many diseases that were formerly placed in the category of functional disease are now found in the lists of organic, and as we advance in knowledge how many more will in like manner be transferred. The term functional is a convenient one for us. It sometimes expresses knowledge; it more often conceals ignorance.

Are we justified in using the term functional? If by it we are to understand that abnormal action can occur with normal structure and normal influences from without, I should say no. There must be some reason for the wrong-doing. If it is not in surrounding circumstances and influences, we might look to the organ itself. "There are, no doubt, disorders of which we do not know, and perhaps never can know, the essential cause—whether intrinsic or extrinsic, or, if intrinsic, of what nsture. But the mills of God grind exceeding small, and there is much in nature, sound or sickly, which is not to be reached by the coarse vision and clumsy methods of the present century."

How little do we really know of normal structure. Who can understand the nature of protoplasm? Who has determined the action of stimulus upon nervous matter? What is the ultimate nature of those substances upon which life process seems to depend — the ferments— and whence their origin? Who can explain the power of cellular reproduction, etc.? We do not know the exact nature of a single organic cell. If, then, our knowledge of normal structure be so meager, how very imperfect it must be of those subtle pathological conditions which form the physical basis of disease.

Nowhere in the realm of medicine is pathology so obscure as in the nervous system. This is one reason why study of nervous diseases is so difficult. How very natural for us to select the easiest way out of our embarrassment and say the disease is functional, thereby clothing our ignorance in the stately robes of high-sounding phrases.

When we stop to consider seriously the nature of the so-called functional diseases of the nervous system, we readily discover the fallacy of our reasoning. Can you imagine a nervous system so malevolent that, with a normal structure and with normal influences, it will persist in producing those irregular, involuntary, inco-ordinate muscular contractions, with loss of consciousness, and often attend bodily injury, which we call the epileptic fit, and that it will persist in its nefarious habit until its victim becomes the inmate of a madman's cell! And yet to-day we find it classed as a functional disease. Or, again, will you say that in chorea it is the unreasonable and unaccountable caprice of a normal structure that causes the skin to be eroded, the muscles to waste, the faculties to fail, and the patient to die?

And once more, in that protean malady, hysteria, is it a normal structure which, under normal influences, produces the manifold symptoms of this disease and makes the patient an abject slave to its unreasonable demands? By no means. If a machine does not work properly we look to its parts. When we see an effect we know there is a cause. If that cause be not in external influences it must be in structural change. Organic changes are not of necessity obvious. They may elude our modern methods and vigilance. They are none the less real or potent by so doing. Changes of a nutritional nature, undiscoverable

and insignificant as compared with the grosser lesions, may nevertheless be colossal in character when compared with the molecular structure of the cell. The girl in "Midshipman Easy" could not excuse the illegitimacy of her child by saying it was a wee little one, nor can we ignore these nutritional changes because of their apparent insignificance.

Normal action presupposes normal structure and normal influence; abnormal action presupposes abnormal structure or influence. The animal cell is capable of varied activities, and when these activities are within physiological limits we have a condition of health. When they overstep the boundaries set by nature we have disease. Where physiology ends pathology begins.

How, then, shall we regard the term.

DISCUSSION.

DR. O'CONNOR: I enjoyed the Doctor's paper very much. I think it more of a literary effort than a scientific paper.

DR. MOREN (*visitor*): The word "functional" covers much of our ignorance. I have just noticed in a new text-book a suggestion that we change the term functional to neuron disease. In these functional troubles we are unable to find the pathological changes. In organic conditions we can.

Society Proceedings.

PROCEEDINGS OF THE LOUISVILLE MEDICAL AND SURGICAL SOCIETY, OCT. 18, 1905.

DR. POPE: I reported to this Society on two occasions previously a case of exophthalmic goitre in a woman with a pulse of 168, very much emaciated, the thyroid gland markedly enlarged and the eyes protuberant. The lady weighed 115¼ pounds when she entered The Sanatorium and left weighing 158 pounds, after a period of three and a half month's treatment. The pulse dropped to what I considered to be normal, 84. There were no evidences of any goitre or protuberence of the eyes. She left the infirmary the latter part of July or the first of August, and I had a letter day before yesterday from her physician stating that she was entirely well and that her pulse was 72. This taken in conjunction with the serious character of the case speaks very highly of the treatment outlined at that time. This consisted of hydrotherapy, the application of an ice bag to the heart, massage, vibration and the employment of hygienic and dietetic measures.

Of the other two cases that I wish to report to-night, the first is that of a clergyman of the Catholic Church sent to me from Indiana by a friend of mine, and the case is reported as being to me most interesting. This patient has been a close student and is an intellectual and charming gentleman. He is the most enjoyable person that I have been thrown with in some time, although I only saw him for three days. He has been a sufferer from chronic headache for fifteen years, and has run the gamut of all the ocular experiences from eye glasses and mydriatics to muscular tenotomies and what not. He has tried first one thing and then another until to be very frank with you he was a first-class doctor on his own case. He had read considerably about it and had gathered an immense amount of data.

The case was one that presented absolutely no evidences of any gastric or intestinal involvement. I could find no enteroptosis that we frequently find in these cases, no nephroptosis or anything in the physical examination that would likely have produced the headaches. But upon examining the contents of the stomach we found this man to be suffering from a very high degree of hyperchlohydria; in fact, it was considerable; the ordinary amount in the metric system being 180, in his case it was 280. The hydrochloric acid which normally in the metric system is .025, in his case was 142. This condition was treated only for two days and then he was given hygienic and dietetic instructions together with medicinal treatment to overcome the trouble. For the first time in fifteen years he has gone two months without the semblance of a headache.

The second case is that of a lady who was taking forty-six grains of morphine a day, and taking the forty-six grains in four hypodermic doses. In all my experience with morphine habitues, that is a pretty lively dosage, being nearly twelve grains at each hypodermic dose. She was under my care from July 22nd until about the middle of September. She made an uninterrupted recovery and is now entirely well and entirely free from the drug. Among the interesting features of the case was that of the slow pulse. I have rarely seen these cases with a slow pulse. Her pulse was 60; she weighed 120 pounds when she entered the infirmary, and when she left her pulse was 88 and she weighed 144 pounds.

The blood condition was very low, the hemoglobin only registering 40, with marked leucocytosis and a great many microcytes. Those of you who have attempted to follow the clinical work that has been done along the examination of a fresh specimen of the blood would be surprised to find how many microcytes we find where the case is one of extreme mal-nutrition, and particularly so when brought about by a nervous influence, as in morphinism and those affections that involve the central nervous system. This woman had a marked diminution in the elimination of the solid constituents of the urine; in fact, they were diminished nearly 50 per cent. In addition, she was suffering from a great deal of pelvic trouble, which she claimed was the origin of morphinism, although

the symptoms had been entirely masked by the dosage of forty-six grains a day. The cervical canal was the smallest that I had ever seen in my life, and this was dilated until it carried a 26 French sound with considerable benefit to the patient. The woman had two periods while in the infirmary without any trouble. In addition to the general treatment employed for the morphinism, she was given intrauterine treatment by electricity.

DR. S. P. MYER: How long had she been using forty-six grains a day?

DR. POPE: She had been using forty-six grains a day for four years. She had used morphine in smaller doses continuously for fifteen years.

DR. GUEST: I was much interested in that morphine case. Being City Physician for the past eight years I have seen a great many cases of morphinism. We have probably 200 cases a year at the work-house; that would make 1,600 cases, and I have seen forty or fifty cases in private practice. The largest dose that I remember that any of those took was seven grains at a dose. This was taken only twice a day, morning and night. Another case I remember that was successfully treated in private practice was a prominent physician who took twenty-seven grains a day in four or five doses. I was struck with the unusually large dose that the doctor's patient was taking.

DR. SIDNEY J. MEYERS: I would like to ask Dr. Guest whether the morphine is entirely withdrawn from the prisoners at the work-house?

DR. GUEST: Absolutely.

DR. REESOR: What treatment is given after they are taken off?

DR. GUEST: Stimulation.

DR. HENDON: I would like to ask Dr. Pope how he cured the case?

DR. POPE: I thought the Doctor had gotten a copy of my pamphlet on morphinism. My plan is to as rapidly as is consistant with the physical state of the patient reduce the dose to a certain point and then put the patient to bed and give him the full Weir-Mitchell treatment. He is put in a room with a nurse and the morphine withdrawn in a day or two. I stimulate with strophanthus and strychnine.

I would like to say to Dr. Guest that my experience is that the average dose runs from eight to fifteen grains per diem. This summer I have had a remarkable run with doctors. One took sixty-five grains per diem. He was under the impression that he was taking twenty-five grains, and the capsules were weighed and found to contain sixty-five grains. He never had any disagreeable symptoms in the progress of withdrawal. It may be interesting to state that the morphine habitue will oftentimes tell you if you will give him a full treatment by the incandescent electric light bath that the dose of morphine may be left off.

I have gone into the subject in my article, and I will take pleasure in mailing Dr. Hendon and the other gentlemen who may wish one a copy. It was read before the Mississippi Valley Association, at Cincinnati, in

1904, and has been copied in the Quarterly Journal of Inebriety, and one or two other journals in this country and in the Journal of Inebriety of London.

DR. POPE: This is rather a meager amount of information upon which to give an opinion, but from what the doctor stated in his description if we had had an infection previously I would have thought that he had to deal with an inflammatory condition in the gray matter of the spinal cord. It seems to me it would be a very curious diagnosis to make of multiple sclerosis based upon the symptoms the doctor detailed here. It seems to me that the diagnosis rested between an inflammatory trouble of the gray matter of the brain and spinal cord or possibly some of those functional or toxic mental conditions that arise from changes in metabolism or the absorption of toxines or posions from the gastro-intestinal tract or the retention of uremic poisons in the system, but it is a curious thing to find a complete incontinence of urine and feces in these cases. It is suspicious of, to say the least, a mild grade of myelitic trouble.

DR. SIDNEY J. MEYERS: Speaking along that line, I was called to see a man suffering from ataxia with a sudden development of a mental condition, and he had slight symptoms, except that while he did not pick up paper he was continually trying to pull the sheet on for his underdrawers. He would try for an hour at a time to put the sheet on for his drawers.

I was called at 12 o'clock at night, and it took two policemen and two neighbors to take that man to an institution. He fought all the way. When we got to the institution Dr. Burnett, who is a small man, told him to come in, that he wanted to give him a hypodermic, and he went with him quietly. It shows the influence of surroundings upon these patients.

DR. ABELL: The essayist has given us a very thorough and fair presentation of the subject. He has given us the views of the various operators. We find that they differ quite markedly, one side preferring one route to the exclusion of the other, while the opposite side prefers the opposite route. I think he has been very fair in his discussion of the cases which indicate a preference for the supra-pubic. He has given the advantages and the disadvantages of each—the disadvantages of the perineal route particularly in the cases of high location of the prostate and the disadvantages that follow afterwards in the shape of incontinence. The ejacualtory disturbances can very appropriately be excluded from these cases. I had two cases, in one of which there was almost a total loss of the ability to perform the sexual act, which in the course of a year and a half after the operation completely returned. He was operated on two years ago and he says that his ability is more marked than before the operation.

There is one point about the Goodfellow operation. I think we must surely remove the ejaculatory ducts. I have seen the occurrence of epi-

dydimitis. There is a patient at the City Hospital upon whom I think Dr. Schachner operated, in which he did the Goodfellow operation. He is perfectly well and if he had an epidydimitis I think it is conclusive proof that there has been a disturbance of the ejaculatory ducts.

The supra-pubic method particularly in the case of high location of the prostate is the preferable one. It is a remarkable thing to note that all of the prostate and all of the prostatic urethra have been removed by this method. Surely it is easier to remove the entire gland by this method than by the perineal. In the perineal operation the principal thing is to remove not the entire gland but merely that portion which obstructs the outflow of urine.

The supra-pubic route will practically remove all of the prostate even that above the urethra and to my knowledge one case is reported with complete removal of the prostatic urethra.

It necessarily follows that the ejaculatory ducts are removed in these cases and Deaver claims for it that the sexual ability is much greater by the suprapubic method than from the infrapubic method.

I wish to thank the essayist for his most excellent position on the subject.

DR. L. WEBER: My experience along this line has been like that of Dr. Wathen's, and I cannot add anything that would be interesting. I have found it a difficult thing to get the patient to submit to an operation. They come to the office and inquire into the operation and leave without giving us any satisfaction. We say that the mortality is 2 or 3 per cent., but most cases have heard of somebody that has died from the operation.

These patients appear in the office with cystitis, and you examine the prostate and find it enlarged. They come for days and months, and the prostate enlarges and they get worse. Up to that time they are willing to take treatment, but as soon as you suggest an operation they are not willing. A case was referred to me from Russellville about two months ago. The prostate seemed as large as a quart can. He was told that nothing but an operation would do him any good. He said, "Not for me; a neighbor of mine was operated on and died." That is my experience in these cases. Of course some of them submit. I believe that a great many of them submit too late. For that reason the mortality is high. If we could get these cases early and operate on them, the mortality would be less and the results better. I can get people to submit to operations in other lines—for instance, in appendicitis. A man will have chronic appendicitis and will submit to an operation. If the prostate is involved, you cannot get him to submit to an operation. I think these cases should be operated on earlier; the mortality would be less and the operation more successful.

DR. SCHACHNER: I thank the Society for the opportunity of being here and the essayist in particular for the invitation to be present. I

agree with everything that the essayist has said, and he has said everything in a plain and direct way.

The last remark of Dr. Weber in regard to early operations, I think it is not only desirable to do an early operation because of the improvement of the mortality, for I think the mortality is pretty well taken care of; it is low down, but the results would be better. We should take into consideration that we have a two-fold trouble in an enlarged prostate. We have first an obstruction to the outflow of urine, which, up to recent times, has been looked upon by most as the only trouble—that is, an interference with the evacuation of the bladder. That, however, we might say is the lesser of the two troubles, the greater being the interference to the return of circulation, which lessens the nutrition in the wall of the bladder and the consequent loss of tone in the bladder. Therefore, if the operation is delayed for a long time, it stands to reason that this degeneration that has taken place can only partly be remedied, for the degeneration has gone beyond the point of redemption, we might say. So I think it is desirable to do an early operation in order to get the maximum of results rather than to improve the mortality. With a little care I think that can be done.

Of course, so far as the public is concerned, it is with this as it was with appendicitis, as it is still with hernia and other questions in surgery; they are not educated to it. As soon as they become educated to it they will even suggest an operation and demand it.

Of course, in this, as in other procedures in surgery, it is useless to speak of one method to the exclusion of another. That man practices rational surgery who will adapt an operation to the conditions that confront him at the time of operation. There will always be some cases that will be handled by the suprapubic method better than by the perineal method. We should take a common-sense view of it. It must be more indirect to do the suprapubic operation than the perineal, and it is nonsense for one to say that he can draw the water over the pubes better than he can allow it to run under the pubes.

While I believe, coming to the sexual life, that it is just as some one has said, that is is a case of saying a great deal about a small affair. In most cases it is not the question that confronts us at all. The man is after relief, and the other question does not practically come up.

I think that the most of these cases are best operated on by the so-called Goodfellow operation, which can be done in a short time, especially if the prostate is of the large adenomatous order. While it takes a short time in one, it may take a long time in another.

My personal experience has always been in the direction of this so-called Goodfellow operation. I believe many cases should be done by Young's method, where the work can be done under the guidance of the eyes. That is the only way to do surgery—to see what you do. In young men, I think the result will be better in the long run by doing

this work under the guidance of the eye, and it will be more satisfactory than blindly hulling the glands out.

Of course, Young himself has a large per cent. of rectal fistulæ. We can understand how this might be. He will turn the retractor over to an assistant. Probably the assistant, in order to aid in the operation, does a little more pulling than is good for the structures, and then there is a much larger wound if he makes this V-shaped incision and there is more disturbance of the circulation, and the gauze packing causes a disturbance of nutrition which may result in a slough.

Dr. Hendon: I, like those preceding me, feel grateful to Dr. Wathen for his presentation of the subject, which he has presented to us with charming simplicity and characteristic directness, and very lucidly indeed. The problem presented to my mind is how shall we be thoroughly conversant with the conditions that will determine the choice of the suprapubic or the perineal method. It is no longer a question for argument as to which method is superior to the other, but the line of argument must be based upon which case we will use the suprapubic upon, and upon which cases we will use the perineal operation. The other question is in the selection of our cases. We want to reduce our mortality to the lowest possible figure, and on that account we must all be cautious and exercise care in the selection of the cases upon which we operate.

There are some cases that can be better treated by other methods, but the great majority should be treated by operative procedures. I have at the present time under observation a man eighty-six years of age, who has been leading a catheter life for two years. This, however, was not by my advice, because I believed that the man had sufficient vitality to stand the operation. Still he has been on the metal catheter for two years and has not passed a drop of urine normally in that length of time and has had the catheter used every six hours. That has been done and has been consistent with good health, and his usefulness in life has not been interrupted in the least. I saw a similar case of the same age where the man used a soft catheter, and after using it for one year he suddenly died within a period of forty-eight hours from acute suppression of the urine.

After exercising the proper care in selection and using the method suited to the case in hand, the dangers left are those of producing a rectal fistula and the production of dribbling of the urine. Those things out of the way, I believe the problem is satisfactorily settled.

Dr. Wathen (*closing*): I thank the gentlemen for the discussion of the paper. In answer to Dr. Witherspoon's inquiry, I thought I had taken that up in the paper, in which I stated that most of these old men became very careless with their catheters and that sooner or later they reached the stage where they would demand operation. Therefore, I firmly believe that the sooner surgical procedures are instituted the better it would be, and we should not wait until the patient has arrived at the

stage where he is compelled to frequently pass his urine, where it is painful, the prostate enlarged, and an occasional retention of urine demanding this catheter life.

Now, as regards the different methods of operating, all lay special stress upon the technique. It is strange to study the literature and notice how dogmatic the different operators are in regard to the different methods, each man claiming his method the only one. Now, I can understand how Deaver would take up the suprapubic, or English, method in preference to the French and American method, which is perineal. He has been largely an abdominal surgeon, and especially so in face of the fact that Deaver has operated on only five cases by the perineal method, with two deaths. That is rather convincing to the average operator.

A few years ago, for instance, we were very dogmatic as to the method of doing a hysterectomy, some advocating the vaginal route and some the abdominal route. To-day we recognize that there are certain cases suitable to the vaginal operation and others to the abdominal. We have reached this conclusion by our experience, and I believe that prostatic surgery will solve the same question in the future. I believe that the concensus of opinion is that there are certain cases that are suitable for operation by the suprapubic method and other cases that can be better operated on by the perineal route.

CLINICAL REPORT OF THREE OBSCURE CASES.

BY DR. EWING MARSHALL.

Two young women and one man are under my care at the present time that are giving me considerable thought, and I would be glad to have any suggestions that the fellows of the Society might see fit to make.

One young lady, about twenty-eight years of age has been under my care for about two years, though at times two and even three months have elapsed between the times of my seeing her.

The second young woman is about thirty years of age.

The man is about fifty years of age.

All three have never married and the second young woman and the man have been under my care each less than six months. Their symptoms have been very similar, though not identical:

Head.—The two women have had more or less headache, but the man has had no pain in his head. They all complain of failure of memory and a confusion of ideas. More or less melancholia and fears without foundation. Don't like going out alone and don't like meeting people.

Eyes.—Frequently have mists before the eyes. Both the women have had periods of pain in the eye-balls. All three say they find their sight is not as good as formerly. One of the women has had her eyes tested but the specialist said she did not need glasses. All three complain of a heavy feeling about the lids.

Knee-jerk.—Apparently normal in all three.

Sensations.—All have at various times complained of peculiar crawling and itching sensations. All have more or less a sensation that they are falling forward when they shut their eyes. When turned sharply they have vertigo.

Legs.—One of the women and the man walk with a more or less shuffling gait and do not lift their feet clear of the ground. All three have the sensation of the knees giving away at times and especially when they meet people.

Spine.—I have been able to discover no tender points along the spine.

Speech.—All speak with a metrical intonation, and with considerable hesitancy, slowness and jerky articulation.

Bowels and genito-urinary tracts give no special symptoms.

Treatment.—Modified rest-cure, sedatives for a short time, having to return to them at intervals; antispasmodics of various kinds used as indicated; tonics and constructives when needed; carefully directed and progressively increased, exercise; and occupying both mind and body as nearly as possible all the time, as a principal treatment.

All have progressed to the same point which is a bearable condition but from which I have seen apparently no improvement for sometime. If I tell any of them I can do nothing more for them the great tendency would be for them to drift into the hands of some quack, inside or outside of our profession.

The policy I have pursued is to have them come to see me at long intervals, and as far as possible to attend to their duties as if they were entirely well.

DR. ED GRANT: I am under the impression that these people are somewhat hysterical, and that they are toxic perhaps from improper diet, or at least eating food that does not properly digest. I think perhaps it would be best to push the nerve tonics, for instance the milk of asafetida given frequently; of course the diet should be regulated so as to get rid of the toxic condition. The neuralgic pains about the head and eyes I think are due to toxemia. They may eat too much butcher's meat or eat more than they can properly digest. There is one other point and that is the elimination might be hastened or made more perfect by warm baths twice a week and free evacuations of the bowels if necessary.

DR. LEAVELL: Is there any history of syphillis in any of these cases?

DR. MARSHALL: None at all.

DR. DABNEY: I would like to ask about two or three symptoms: first, whether these patients perspire very easily or are affected with sweats a great deal. The other question is whether they have numbness of the limbs and back, and the third question is whether they tire easily upon physical or mental exertion. My diagnosis would be probably neurasthenia. I am not a specialist along that line. I am a very poor nerve specialist. I believe that the neurologists tell us that it is important to

draw the line between neurasthenia and hysteria, one demanding rest and the other work. My judgment would be that these patients require rest. I think they have something on their minds that produces a great deal of these troubles. Mental worry is often responsible, rarely overwork. I do not believe that overwork causes these troubles except that it is more harrassing to them. I see a great many of these patients that consult me about their eyes and they present this clammy sweating of the hands and body. The limbs are easily tired and they have headache and that disturbance of speech that the doctor speaks of. Drugs do not accomplish much in the treatment of this condition. They should have rest and the cause should be removed if that can be accomplished.

DR. SATTERWHITE: I am perfectly satisfied that there is no organic changes in the cell structures of the brain that would cause this partial aphasia and these symptoms. If there were organic changes there would be more serious and decided symptoms; there would be not only aphasia but there would be disturbances of locomotion. I have a case somewhat similar of a lady thirty years of age, who eighteen months ago had all the symptoms you speak of and distinct aphasia. I think this is entirely what we term neurasthenia.

DR. CHEATHAM: That expression neurasthenia covers a multitude of sins. I do not know whether it means anything or not. Dr. Marshall has an interesting group of cases. I would not look upon any one cause as producing the condition in all three of the cases. Each one may have similar symptoms and have a different cause. I think in these cases it would be well to exclude the eye and the ear as a cause. Aural vertigo is not common, but we have some cases with very little ear trouble that is very often the cause of a great deal of vertigo. There must be some associated general symptoms, and I think that Dr. Grant is about correct and Dr. Dabney also. I would say that the eye and ear as causes of vertigo should be excluded. The eye is a most common cause of vertigo.

DR. ED GRANT: One word more. I think their livers should be looked after. They all have livers.

DR. IRWIN: The cases reported are interesting. The doctor has given the main symptoms in all three. The symptoms vary in each. He speaks of the peculiar hesitancy of speech; he also speaks of the pains here and there. He also speaks of the weakened legs; they have difficulty in walking; he speaks of numb and tingling sensations. All of these symptoms go to show that there is some disturbance in the brain, but the disturbance is not of sufficient magnitude to cause a pathological lesion; if so we would see positive paralysis. In the cases referred to he does not find anything the matter with the eye. It would be well to investigate the eye again and look for papillitis; if present it would be a very positive point toward arriving at a diagnosis. He did not say anything about the staccato speech; he says they pronounce words slowly and hesitatingly. They have the staggering gait and at other times can walk

well. He has given us too some of the symptoms of hysteria. In all such brain disorders there are transitory pains and hysterical symptoms. We find too that all of the patients are unmarried. I do not know the habits of the women. In cases of this kind reported masturbation in the male is one of the causes of the condition he refers to.

We would have to regard those cases from the report as disorders of the brain, not at one particular point but as a disseminated sclerosis. The functions of the brain are partly impaired but not sufficiently to cause anatomical lesions. Those cases improve for a time, but in general grow worse as a rule. If in addition we find papillitis in one or both eyes in each of the cases, with the stammering speech and weakness of the legs—progressive weakness—we would be more sure that we had to deal with a disseminated sclerosis. Sclerosis runs a rapid course in young girls from the ages of fifteen to eighteen years and again it may occur at the menopause from forty to fifty. In man it may occur at any age. I would suggest that some oculist investigate for evidences of disease of the eye and possibly more light can be thrown on the cases.

DR. MARSHALL (*Closing*): First I will reply to Dr. Grant that the neuralgias are all gone in the three cases and that there has not been any return of the neuralgia for some months, and that the bowels have been kept in good condition and I have tried to direct them about diet.

In reply to Dr. Dabney's remarks I would say that none of these people have heavy responsibilities resting upon them. None of them have led any laborious life. The two young women live at home with practically nothing to do. They have too much rest. I have in as quiet a way as possible investigated this man through his friends and associates as to masturbation, but did not like to approach the subject with the family of the young women. I had suspected masturbation in this man who is forty-nine years of age.

DR. SATTERWHITE: Has the urine been examined for indican?

DR. MARSHALL: Not for indican. One other point in reply to Dr. Irwin. There has been some improvement in all three. Sometimes they are a little worse but not so bad as they were. They are practically at a standstill now.

PROCEEDINGS OF THE LOUISVILLE CLINICAL SOCIETY, OCTOBER 17, 1905.

EXHIBITION OF PATHOLOGIC SPECIMENS.

DR. MARSHALL: I have a little tumor here. There is nothing extraordinary about it. It interested me a little bit. This afternoon I delivered a baby and attached to the little finger of the right hand at the proximal phalanx was this little tumor. It was attached by a pedicle and there was a great deal of hemorrhage when it was removed—so much that I had to sew up the wound to stop the hemorrhage.

DR. SAMUEL: I just noticed the specimen as he laid it down. I have seen a number of cases where there was an extra digit. It has been my experience that they are, as a rule, symmetrical. I have never seen a case where it was only on one hand.

DR. CHEATHAM: I have a little specimen, a piece of steel. The specimen itself is not of much interest; Dr. Ray and myself had a magnet erected at St. Joseph's Infirmary which was used in extracting this piece of steel. The current is an alternating so we had to use a convertive. This little fellow was playing and struck two hammers together and this piece of steel flew up and struck him in the eye and passed through the ciliary region. It had been in the eye twenty-two hours when we applied the magnet, using cocaine. We told him if it hurt much we would give him chloroform. Before the steel came out it looked like the eye would be pulled from its socket. We had made some failures before but I think it was because we did not magnetize our magnets. We had to put a small tip into the wound. We used the Victor magnet which is a very nice one and is easily managed. We then put the large tip back and before it got within an inch or an inch and a half of the eye the piece of steel jumped out and struck the magnet. It come out the original wound and we could see it when it struck the magnet. I always put my watch away when I work with a magnet to keep it from being magnetized.

DR. DABNEY: What is the result so far as vision is concerned?

DR. CHEATHAM: No vision. The wound healed nicely.

DR. DABNEY: There are only two points that I want to make in regard to the interesting case reported. The first one is that it is gratifying to know that this foreign body has been removed from the eye by the magnet, but it is a little disappointing to know that it was necessary to put a small magnet into the wound. It has been hoped that the large magnet would do away with the necessity of introducing an instrument into the wound. In this instance this seemed to be required.

DR. CHEATHAM: I do not think it was necessary; it was because we did not understand the use of the magnet.

DR. DABNEY: The second point, and I think a very important one, is whether after all this eye ought to be saved. It is a blind eye and the wound has gone into the most dangerous part of the eye. It is by no means unlikely that a detachment of the retina or an involvement of the ciliary body will take place and endanger the other eye. I do not propose to go into the discussion of the removal of the blind eye. The social condition, the sex, and age of the patient have all to be considered. It would occur to me that in the case of the blind eye of a boy, particularly a good-sized boy, and he had a wound in the ciliary region that it is a questionable procedure to leave it. The boy should be warned of the danger that he is certainly carrying and should report to an oculist for any inflammation in that eye and any disturbance of its fellow. Something would depend upon where the boy lived. If he lived in a remote

country region or if a Negro boy, and therefore less likely to have intelligent supervision it would be best to remove it. On the other hand in a handsome young girl of an intelligent family the eye might be left in, as the removal of an eye makes a great difference in the personal appearance and there would not be so much risk in a patient of this class.

DR. MARSHALL: I enjoyed the report and am very glad to hear that Dr. Cheatham has such a magnet, because cases have gone from here to Cincinnati and other places for the reason that there was no magnet in this city. I heartily agree with what Dr. Dabney has said in regard to the removal of a blind eye. It has been my advice when the eye is destroyed and I have been consulted in connection with the specialist that the eye should be removed.

DR. COOMES: I did not hear the Doctor's report, except the last part of it. In the first place, I would not agree with Dr. Dabney in regard to taking out a Negro's eye because he was a Negro. A one-eyed man stands a worse chance to obtain labor in this country than one who has not had the eye removed. The cosmetic appearance has a good deal to do with securing labor. I would not want a one-eyed man about me.

Dr. Cheatham should not be discouraged because he did not succeed the first time. There are some curious things about this electric fluid, if you choose to call it, that we do not perfectly understand. Just why he should use the instrument and not succeed, and subsequently used the same instrument and succeed we do not know. Probably the fault was in the magnet or the connection was not good.

I saw a piece of steel that Dr. White, of Chattanooga, exhibited last year. It was fully half an inch long and a quarter of an inch in width, and the peculiar thing was that it had entered the eye backwards, going directly in the ball. Dr. White's magnet on a certain day had no influence on the steel. He held the man over to make another trial the next day and succeeded in removing the piece of steel from the man's eye and under the same conditions apparently. He said that the man saved the eye-ball, although the piece of steel was driven for fully an inch or an inch and a half. We find that our experience with the large magnets is the same in that particular as that we have had with the small magnets. I have a dynamo that I run the X-ray machine with. The current is gotten from the City Railway. —— is the least we can run with, and I have never been able to get fifty. I think that the trouble is very often that we have a little bit of a current. I think that we often fail in that way. We should not be discouraged if we do not get the steel.

DR. MARSHALL: Dr. Dabney did not mean that he would take out the Negro's eye simply because he was a Negro, but that the Negro would not take care of himself and would be more apt to lose the eye than a young girl of an intelligent family.

DR. IRWIN: I did not hear the report, but I am interested in the use of the magnet. The magnet has two qualities; it pushes and it pulls.

It does not require a strong current to magnetize iron. The small cell has power enough to magnetize soft iron to raise seventy-five pounds.

DR. COOMES: Just one word more on that subject. Each piece of steel has a positive and a negative pole, and I thought it might be necessary for this piece of steel to turn around in the substance of the eye.

DR. CHEATHAM (*closing*): I agree with Dr. Dabney. I think the eye should be enucleated. This was not a patient of mine. It was Dr. Evans'. I had a case last week illustrating the danger of the loss of the other eye through sympathy. About six weeks after the original injury to the right eye the left eye is about gone through sympathetic infection.

I had a case in the office to-day of a lady sixty-five years of age. She has an injury of thirty days' standing, and I think it best to enucleate the eye. This boy's injury being in the ciliary region the eye ought to be removed.

Dr. Dabney saw a case with me at Bowling Green. The foreign body went through the cornea, iris and suspensory ligament, not touching the lens. The boy went to Cincinnati and the eye was torn to pieces through the use of the magnet. I believe that the eye could have been saved if the magnet had not been used. I just had a similar case. A railroad man received an injury in the same region as this boy. I put him in the Infirmary and treated him with atropin, iced cloths and a dark room. This man now has perfect vision in this eye. The piece of steel is unbedded, and I do not believe will ever injure his vision. Reasoning from analogy in this case, I think that a mistake was made in depending upon the magnet in the other. The eye in the case reported is in a dangerous condition and I agree with Dr. Dabney that it would have been better to have had the eye enucleated.

DR. SAMUEL: Is the hemorrhage great in these cases?

DR. CHEATHAM: No. It was not necessary to use the small tip in this case. Dr. Vance has a needle in his hand that he has had there for years and if the magnet is put over the hand it will lift the skin showing the location of the steel.

DR. ABELL: I have a bullet here, if a bullet may be called a pathological specimen. The penetrating power of this bullet was remarkable. I have seen a number of gunshot wounds where lead bullets were used, but they had little penetrating force. I remember an instance where a 32-caliber pistol was discharged not more than ten feet from the man and the bullet failed to penetrate the abdominal wall. I have seen a 38-caliber bullet fired at thirty feet, strike the ileum and flatten out like a quarter. I saw one from a policeman's revolver of the 44-Colt class that struck the neck of the femur and failed to break or go through it.

This is a 32-caliber bullet. The man was shot Sunday night; the wound of entrance on the left side five inches below the crest of the ilium and two inches to left of third sacral vertebra. When I first saw him the pulse was 128 and the abdomen distended; this was ten hours after the

reception of the injury. He was suffering considerable pain, and a catheter introduced into the bladder brought an ounce of blood. No urine. Under the circumstances, I opened the abdomen, which was full of urine. I found the rectum perforated. The bullet had gone through the pelvis. It entered the rectum behind, between the layers of the mesorectum, and came out in front, wounding the rectum and bladder. The wounds in the rectum and in the bladder were both closed, and I washed out the bladder. I did a perineal section, and after opening the membraneous urethra I stuck my finger in the bladder and found this bullet, which was removed with a pair of forceps. This is a 32-caliber bullet, and the man injured was at a distance of forty-two feet. It is the first one I have seen that went through the bony pelvic wall.

DR. SAMUEL: Did it go through the joint?

DR. ABELL: No; just a little to the left of the joint. It is now forty-six hours since the operation. His pulse is 114, and there are no evidences of peritonitis.

DR. CHEATHAM: Some years ago I saw our late friend Dr. Krim when he had a severe case of erysipelas of the head. He had a great many abscesses. I do not know how many Dr. Cartledge opened on his head. He had no meningeal symptoms at all. I think meningeal symptoms in these cases may be embolic or thrombotic. In disease of the choroid with meningitis and with erysipelas we have a purulent inflammation of the choroid. I remember a student at the University some years ago who lost both eyes as a result of purulent inflammation of the choroid, vitreous humor, and the uveal tract from meningitis. He had been operated on for piles, and I thought that the infection might have come from that. I was not sure about it.

I think Dr. Barbour is laying too much stress upon infection through the ear. It is not common compared with the number of cases of meningitis that we have. The infection most commonly occurs through the nose and through the cribriform plate of the ethmoid. It seems to me to occur oftener through the nose than through the ear. Ear infection is secondary instead of primary in cases of epidemic meningitis. I think that it might occur through the tonsils, which are open to all kinds of infection. Stress should be laid upon the ear in some phases of meningitis.

DR. COOMES: I was much interested in the paper. It struck me that in the differential diagnosis between cerebro-spinal meningitis and the diseases the Doctor mentioned, in the latter we do not have the peculiar sensitiveness of the retina that we have in cerebro-spinal meningitis. Nearly all cases have sensitiveness of the retina. I lost two grown sisters from this disease. One died in sixty hours and the other in six or seven weeks.

Middle-ear trouble is always interesting, but I do not think there is

much danger in the great majority of cases of meningitis being secondary to this.

I was much interested in the paper and have nothing to offer in the way of treatment. Lumbar puncture offers the greatest hope in treatment. The only thing is the danger of infection at the time of puncture.

DR. LEAVELL: Dr. Barbour, do you lay much stress on the tache cerebrale?

DR. SAMUEL: I enjoyed the paper very much. I would like to confirm what Dr. Leavell has said of Koernig's sign. I read an editorial recently in the *Medical Record* in which the writer stated that it can be gotten in many individuals. It is found in other diseases.

I was much interested in the point that Dr. Cheatham spoke of, that meningitis is not so frequently the result of middle-ear disease. I believe that it is through the middle ear, nose, mouth, and accessory sinuses that this infection takes place.

DR. BARBOUR (*closing*): I want to express my appreciation of the very full and interesting discussion of my paper, and I want to take up just a few points brought out in the discussion. I have laid rather too much stress possibly upon the connection of middle-ear disease and meningitis because in pediatric work that is probably the most frequent of all causes, much more so than in the adult. I can recall a number of cases due to middle-ear disease, and it was on that account that I gave it as one of the great causes of meningitis.

An examination has been made of the mucous membrane in cerebrospinal meningitis and in most all cases the micro-organism has been found upon the nasal mucous membrane, so that it is pretty evident that the infection takes place through the nose and the cribriform plate of the ethmoid to the brain.

Koernig's sign is not an absolute symptom of meningitis. In fact, not any one symptom is. The many symptoms combined make the diagnosis. It is rather uncertain, because it is found in normal cases, and in many cases of meningitis it is not found at all. When taken by itself it is not a sign of very great importance.

In tubercular meningitis there is some elevation of temperature nearly always. In the beginning there is an elevation of temperature, then a drop to normal or subnormal for a while, and at the end the temperature rises rapidly until it reaches 106 or 107. I did not take up syphilitic meningitis at all.

I did not take up all of the eye symptoms, because I wanted the ophthalmologists to bring them out more fully.

The tache cerebrale is not important. We cannot put any confidence in it.

I thank you for your kind discussion.

NEW YORK ACADEMY OF MEDICINE, MEETING OCTOBER 17, 1905.

Orthopedic Section.

Dr. Homer Gibney, Chairman:—Dr. Hibbs presented a boy ten years old, admitted to the Hospital February 21st, this year, giving a history of having had some injury, a fracture of the forearm, following which he had an extensive suppurative process, causing what seemed then a paralysis of the ulnar nerve—typical claw-hand, loss of power in the extensors. The ulnar nerve was cut down upon; an extensive cicatrix was encountered, which was evidently the cause of the paralysis. That operation was performed March 8th.

The neurologists at the Hospital noticed immediately after the operation—March 12th—changes in the color of the hand and evidence of improved circulation and sensation, and since that time it has seemed to me as well that the boy is steadily improving. Would like suggestions as to further improvement or what you think the prognosis is. Aside from the interest in itself, it is to me interesting because I have a second child with a very similar lesion, due evidently to the plaster having been applied too tightly after fracture of the arm.

The second case may not be of great interest, but it is rather out of the ordinary. This little fellow was admitted to the Hospital a few days ago. Age, thirteen years. Multiple exostoses—numerous bony tumors appear extensively over the body, an enormous one on his scapula, which was removed seven or eight years ago, but reappeared and now involves the whole scapula. It is interesting for two or three reasons—first, because of the age and because there are so many of the tumors. Then the case is interesting on account of the one removed and subsequent recurrence. A very good X-ray picture of it was taken, which was instructive in showing the very spongy character of the bone. The speaker had supposed, probably incorrectly, that they were very hard and had much the character of bone.

Dr. Henry W. Frauenthal showed pictures of a case of gonorrheal infection of the ankles and of a case in which both knees, both hips, both ankles, and one elbow were involved—a mixed infection of probable gonorrheal origin, in which he attempted to correct the deformity under an anesthetic, and without any great physical effort this was partially accomplished. He was put in plaster, and an acute process was set up. He had no temperature for twenty-four hours—then endopericarditis, with a temperature of 108½, and died.

He had another case with rise of temperature; no evidence of discomfort. In twenty-four hours temperature was normal. No paralysis.

Dr. Nathan asked if the arthritis of the spine followed gonorrhea.

Dr. Frauenthal replied, "Yes." The man whose picture was shown died. The only point of interest was that he had expected to

have a great deal of trouble in straightening, and exert a great deal of force, but he had the patient looking up perfectly easy.

He had shown the picture of the first case because he had expected to show the man.

DR. FRAUENTHAL also showed a case of double hip infection of two years' standing in a woman. Limitation of motion, pain. Had spent a year in bed.

DR. MYERS presented a case of a little colored boy, a year and nine months old when he came into the Hospital, in February, 1905; could obtain no history at all. He was in very good condition at that time, except for the acute condition, and that was very acute and extensive periostitis of the tibia. Very weak pulse and septic. This thing had been of very short duration; the people in charge said only two or three days. It was opened from one end to the other with a discharge of thick yellow pus, culture showing pure staphylococcus. Temperature 103 or 104 at the time, and Dr. Phelps' method was used, raking the whole area with pure carbolic acid for about twenty seconds, wiping out with alcohol, afterward with iodoform. Two days later the temperature fell. Abscess on right humerus above and behind the external condyle. The house surgeon attended to it. The abscess was opened and the same kind of pus evacuated.

When the child was convalescent the sinus in the leg was still discharging—a sinus at elbow discharging a little, but enough to warrant operation. He attacked that wound and found a cavity in the humerus about the size of an ordinary marble, and that the lower and upper ends of the divided nerve had enlarged to twice their size and were adherent to the periosteum on either side of abscess, so that perhaps there was one-half inch separation of the two ends. The bulbous ends were so markedly pathological that those were cut off, and that left them separated about one and one-half inches. The speaker said he thought he could get a branch of the artery and bridge over the gap, but found he could get the ends together and suture them, and then the abscess discharging almost at that point was an obstacle, and by separating the nerve from the abscess and putting in tissue and packing the abscess off from the eerve and putting plaster of paris splint on to hold the arm flexed and bound down to the trunk so it would have no motion at all, this was overcome. The splint was kept on from May until the latter part of July, when it was removed.

At that time the child could hold his hand extended, but could not hyperentend it. Returning from vacation, found that, as now, he apparently uses hand as well as the other. At the first examination he had total wrist-drop and absence of sensation.

A couple of pieces of bone had been taken out. The shaft was left in the splint until more or less healing took place, when it was removed.

DR. A. B. JUDSON reported a case as follows: A few years ago I saw

a patient, a girl of nineteen, who complained of inability to walk from a painful condition of the left knee. I found evidences of infantile paralysis of the left foot and an inclination of that foot to varus. As we have pain in the stomach from Potts' disease and pain in the hip from hip disease, why not pain in the knee from club-foot? But I found a very good logical reason for connecting the pain in the knee with deformity of the foot. She had grown up in the habit of walking with the limb considerably abducted in order to bring the sole instead of the outer border of the foot to the ground. In this way she had unwittingly avoided the customary callus and had escaped having rigid equino-varus. As she grew to be a large and very stout girl, her increasing weight, falling on an abducted limb had disabled her by prodcing a painful genu-valgum, which she was compelled to apply for relief. I found a rather short tendo Achilles, the left calf smaller than the right, and a small callus on the outer border near the little toe. It was with difficulty that she was made to see that the trouble was in the foot and not in the knee. After a time, however, she wore a club-foot brace which directed the sole of the foot squarely to the ground. This improved her gait at once and led her to give up abducting the limb, and, of course, the trouble at the knee disappeared. This is the only really unusual feature in this case. If she could have followed the advice and worn the brace as a curative appliance the deformity might have been removed and the brace might have been laid aside. There is little doubt that this could have been done. The condition was very far from that of rigid or inveterate club-foot. The parts were still flexible, as her peculiar manner of walking had brought her weight on the foot in a nearly normal direction. But the opportunity was not given to over-correct the position and reduce the deformity. The sequel is that she is now thirty-two years old, the mother of an increasing family, and will continue to wear the brace, which, as is evident from this duplicate, is heavy (2½ pounds), and apparently an inconvenient thing to carry. But she is glad to have it, and says she cannot walk without it. The brace gives her a strong gait, almost free from defect. The case reminds one of the difference between wearing a brace with a therapeutic end in view and wearing one as a purely prosthetic apparatus.

DISCUSSION.

Dr. Hibbs' Case of Ulnar Nerve Suture.

DR. H. W. FRAUENTHAL said he thought a method in use at the Massachusetts General in educating partially-paralyzed children might be of use in Dr. Hibbs' case—that is, have the child concentrate his mind and touch various objects at the beat of a clock or of an instrument that beats time for instrumental music.

Dr. Hibbs' Case of Multiple Exostoses.

DR. MYERS said it was very interesting and seemed to him one of the

few instances he had seen in which the child could improve by operative procedure. He thought the shoulder tumor could be removed with very great benefit. Whereas the function of the arm is not very much interfered with, the deformity is marked. He had not examined the knees very closely, but he thought their function was not interfered with.

DR. NATHAN said he would like to call attention to the fact that the cartilaginous exostoses in this case closely follow the epiphyseal line, showing they come from cartilage, are originally a disease of the epiphyses—growing cartilage.

DR. ASHLEY said he had five or six cases in the same family—the grandmother, the mother and her two children, and a brother. He spoke of this in the meeting of the Association at Boston, where a paper was offered by Dr. Young, of Philadelphia. The grandmother had one exostosis on the right ulnar. The arm was very much shortened, but useful.

DR. JAEGER said one point not mentioned was the bowing of the ulnar that seems to take place and shortening of the arm. The case Dr. Ashley spoke of attracted his attention because of the short arm when he was under treatment at the Vanderbilt.

DR. HIBBS said that, in regard to the exostoses, his idea was to remove them one at a time and get rid of as many as were very conspicuous or interfering in any way with walking.

Case of Frenchwoman Shown by Dr. Frauenthal—Affection of Both Hips, Two Years' Standing.

THE CHAIR said that the caase seemed to him to be one of the group described by Goldthwaite, of Boston, slipping backward or forward of sacro-iliac synchondrosis.

DR. NATHAN said the trochanter was above Nelaton's line, no limitation in flexion or extension, some in rotation. A process coming on in the head of the femur would not have that effect. One would imagine from the symptoms that she had osteoarthritis deformans of the hip, rather than infection.

Dr. Judson's Case—Club Foot.

DR. JUDSON replied to Mr. Myers' question as to whether there were any visible changes in the knee, saying he examined it and found nothing objective about it except that it was a case of knock-knee and so painful she could hardly walk.

It is a very interesting question Dr. Myers raised whether there may not be some nervous connection between deformities of club foot and important joint like the knee. Perhaps we could expect to have pain in the knee from club foot, as in hip disease.

DR. MYERS said, in answer to Dr. Judson's question, that he did not think the condition parallel with hip disease. As he understood it, the pain in the knee of hip disease was due to irritation of the nerve, but in

this case he thought it due to straining of the joint ligaments bearing the unusual part of the cartilage, as in flat foot.

DR. ASHLEY exhibited to the Section a series of celluloid jackets and corsets and foot plates, claiming durability and lightness as commendable features.

Meeting adjourned. DR. S. A. TWINCH, *Secretary*.

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS. SEPTEMBER 21, 1905.

MR. PRESIDENT AND FELLOW MEMBERS:—Dr. Coleman's report of a case of typhoid fever without any fever reminds me of a recent case, which I will style—a case of pregnancy without any fœtus.

The patient in this case has been married three years, had never missed a period, nor had she at any time had any symptoms of pregnancy. When I was called she had just arrived in the city after a twenty-four hour railroad ride and was suffering with a dysmenorrhœa, her period which was due, having started while en route. I did not think after considering the case that an examination was necessary at the time, so I prescribed for her and started to leave. Before reaching the door I was called back to the room and found my patient in intense pain and she informed me that a gush of blood had come and she had passed something. On examination the napkin was very wet, but that there was very little blood; within the vagina I found a few shreds of tissue which I extracted and placed in water. The uterus was slightly enlarged and soft but the os uteri was firmly closed. The shreds of tissue proved to be shreds of decidua and an amniotic sac about the size of a peach which was ruptured. If any umbilical cord formation was present it was so rudimentary that it could not be distinguished. No fœtus was found and there was no history of any ever having been passed.

Regarding the case as rather unusual and thinking that the uterus should possibly be emptied of any further contents I called Dr. Ritter in consultation. After examination he said he thought everything had passed that was to be passed, that he regarded it as a case in which the ovum had been absorbed having for some reason undergone any early death.

Some text books on obstetrics mention instances of this kind and Dr. Ritter says that he has encountered several similar cases. Being the first event of this kind that I had ever seen, I must confess that I was just sufficiently up in the air to realize that I was not standing on firm ground, and needed a little ballast in the shape of a consultation to steady my position. The os was not dilated nor was any attempt made

to empty the uterus of further contents and the patient made a rapid recovery.

DR. COLEMAN: About three or four years ago I reported several cases of a typical typhoid. I recently have had others of this class. Had several symptoms of typhoid but no fever. More nausea than regular cases. Loss of flesh and appetite and coated tongue. Three or four rose spots. Tympanitis. In one case that Dr. Roberts saw with me he advised the replacement of a slightly reflexed uterus. This was done but no relief from the nausea followed. In three weeks the symptoms cleared up and there was a gain of flesh as in the frank cases of typhoid.

DR. BLITZ: The weakness in typhoid is often due to starvation. I believe the temperature is continued in many cases because of the lack of food.

DR. MEYERS: I have a case on hand now in which all symptoms of typhoid are present but the temperature has never gone above 99°. I do not think it a para-typhoid but an afebrile type. Feed these typhoids especially in young patients.

DR. ABELL: I recently saw a patient in consultation, which showed many of the symptoms of typhoid without the temperature. This case ran a course of five weeks. The attending physician thought it was appendicitis. I believe it to have been a case of the class reported by Dr. Coleman.

DR. RUSSMAN: I have seen these cases. One I remember in which intestinal hemorrhage was the first intermation of typhoid. This temperature never rose above 99°.

CASE REPORTED BY DR. BIZOT.

Mrs. C., age 41; apparently healthy and robust. Miscarriage twenty years ago. No children. Widow twelve years. Nine years ago complained of pelvic pains, advised at time to operation; account, salpingitis; refused. No further symptoms until six months ago when severe headache and constant pelvic pain ensued. Uterus slightly enlarged and fixed. Metrorrhagia, at cessation of hemorrhage uterine yellow discharge prevailed for three weeks. Treatment, hot antiseptic douches. All symptoms subsided until six weeks ago, at regular menstrual period; severe headache, pelvic pain. Pain not constant but intermitting. Pain in first week occurred about every two hours; second week about 10 A. M. and 3 P. M., only twice a day, slight hemrrrhage each time. Vermicular movements of uterus could be isolated. Uterus fixed, more enlarged than previously, mass behind in culdesac and to left of uterus.

September 19th, abdomen opened, omentum adherent along almost entire anterior wall. This treed the intestines, pus tube, cystic ovary were encountered matted down by adhesion in Douglas' culdesac. While

freeing mass tube ruptured, covering field with pus. The mass freed—ligatures passed through broad ligament at brim of pelvis including round ligament, clamps at each side of uterus, the broad ligament then incised down to uterus about internal os. Peritoneum covering uterus next incised at level of round ligaments. Peritoneum would not strip from uterus. A curved needle with double ligature passed from low down and from below up emerging just above bladder line, uterus transfixed and amputated below round ligaments. Amputation revealed these peculiar polypus looking growths, three in number, largest about size of sparrow egg. Fearing malignancy, as much of uterus was trimmed away as possible with curved scissors, uterus as far as internal os was removed leaving the peritoneum both anterior and posterior. All vessels ligated separately. Peritoneum that covered uterus invaginated. Drained through abdominal wall, no infection followed; pus from tube evidently inacous.

Thanks to Dr. O'Connor who examined specimen and reports tumors to be of fibrous growth.

DISCUSSION.

DR. ABELL: This specimen shows the uselessness of waiting on pus tubes. I believe in hystorectomy in bad tube cases. The adhesions reform when uterus is left in. This cannot occur when we have done a radical operation. I drain with rubber tissue through the vagina in these cases and close the abdominal opening. I do not use gauze. I do not think this polyp is malignant.

THE
AMERICAN PRACTITIONER & NEWS.

"NEC TENUI PENNÂ."

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Editorial.

Proper Anesthesia. The one practice in the domain of medicine and surgery that is about the most neglected by those seemingly most interested is the administration of an anesthetic. These few remarks will, no doubt, be only glanced at by many readers and will, as usual, elicit little interest, for they will believe it is written by some new enthusiast or a sorehead. It is a delight to see a surgeon who realizes that the practice of surgery is made a success as much by the skillful administration of an anesthetic as by any other advantage offered him. As well it is deplorable to know that there are too many operators (not always surgeons) who think that all that is necessary at the head-end of the operating table is a medical student or a mere graduate who can pour chloroform on an inhaler in sufficient quantities to get the patient dead under quickly and allow as little time lost as possible for said operator. Should an accident occur in such a case, every one present will order the anethesist to do something, and like as not each order will be different. The proper caper in an anesthetic accident is to allow the anesthist full sway to do, order, or think as he alone chooses. He should be capable before being employed.

There are many anesthetics, but ether (from statistics) still stands at the head for safety, ease of manipulation during administration and certainty of the patient being in better circulatory and respiratory condition than under any other anesthesia. What else does one care about if the circulation and breathing are all right. Six or eight layers of

gauze laid loose about the patient's nose and mouth, kept moderately sprayed with either, will keep the patient under with greater chances for air than any other method. This spraying is accomplished by perforating an ether can in the center of the top with the point only of a common brass pin, and directing it downward toward the gauze, the heat of the hand in holding the can forcing out the tiny stream. With this method it is a common practice to keep a laparotomy case under for one hour, using only 100 grains. So it is to be decried, the routine practice of saturating a large bunch of gauze stuffed into a big brass drum or rubber inhaler, where for the same operation and same time 500 to 1,000 grains are used. And this latter amount of anesthetic is what has caused the profession to state as a fact that ether causes pneumonia, nausea, and nephritis, and the many doctors that believe these disadvantages of ether will give two drachms of Hoffman's anodyne and get no less ether into the human economy for elimination than will be given on the open gauze method and using the 100 grains. Careful administration of a minimum amount of ether, with the anesthesist in full charge to do as he thinks best, yet preserving (both he and the surgeon) a consideration for one another in their respective occupations, makes surgery and anesthesia the best of friends instead of too often experiencing friction.

International Medical Congress. The committee in charge of the International Medical Congress, which will be held in Lisbon from April 19 to 26, 1906, has written asking for the contribution of papers on the following medico-legal subjects, and saying that as yet no titles of communication touching on any of these subjects have been received from this country:

The signs of virginity and of defloration in medico-legal relations

Hand-marks and finger-prints; their medico-legal importance.

The medico-legal importance of the caruncule myrtiformes.

The mechanism of death by hanging.

The value of bacteriologic examination of vulvo-vaginal discharges in the determination of venereal contagion.

The signs of death by drowning.

Eschymoses in legal medicine.

Spontaneous and criminal abortions from a medico-legal point of view.

Medico-legal investigation of blood-stains.

The relations between the seat of cerebral contusions and the point of application of the agent which produced them.

Epilepsy in legal medicine.

The induction of abortion; when is it permissible?

The value of legal medicine in the study of criminal law.

The best legislation for the protection of the "medical secret" (the obligation imposed upon physicians to treat as inviolable all information concerning patients obtained while in the discharge of their professional duties).

The effects of the civil and penal law towards the new-born living infant.

Distinction between natural openings in the hymen and tears of this membrane.

Criminal vulvar copulation.

Organization of medico-legal services.

If any of the readers of this communication intend to take part in the discussions of this section of the Congress, or to prepare papers for it on any of the subjects mentioned, or on any other subject in medicine or surgery, he should inform the Secretary of the American Committee.

RAMON GUITERAS,
Secretary American National Committee,
75 West 55th Street, New York.

Recent Progress in Medical Science.

GENERAL MEDICINE.

IN CHARGE OF

JOHN J. MOREN, M. D.,

Professor Nervous and Mental Diseases, Hospital College of Medicine.

GYNECOLOGY.

IN CHARGE OF

C. W. HIBBITT, M. D.,

Associate Professor of Gynecology, Medical Department, Kentucky University.

GENERAL MEDICINE.

Transillumination of the Stomach.—(*Brooklyn Medical Journal*), H. H. Lincoln. Fluorescein was first used by Kamp. It is a napthlin product, a deep-red powder, and gives a green-yellow color in mild solution. It is made of phthalic anhydrid 5 parts, resorcin 7 parts, heated to 200 c., is soluble in alcohol and alkaline solution, but not in hydrochloric acid. Is harmless in stomach or circulation. The mixture used is ⅛ gr. fluorescein, 40 grs. bicarbonate of soda, 1–2 drachms of glycerine, and water to make 1 pint. The glycerine is used to increase the fluorescence. This is placed in stomach, and the lamp is introduced. The illumination is much better and can outline the stomach better than water, lime, etc.

After several tests, he located the stomach lower than most writers, and concludes that gastroptosis *per se* is not so serious, and that artificial support is not needed as often as is applied for these various ptoses.

Case of Gastric Ulcer after Gastroenterotomy.—(*Medical News*). Kaufman reports a case in which gastroenterotomy was performed for ulcer. The patient did nicely for three months; gained twenty-seven

pounds. Soon he developed distress after taking food, and pain one hour afterward. He had several courses of treatment for ulcer, but showed no improvement. Fecal vomiting appeared, and the pain was so severe that a second operation was approved. They found a gastro-colic and jejuno-colic fistulæ. The button was used in this case, and at post-mortem they found necrosis at attachment.

Kaufman concludes his article as follows: "We ought to bear in mind the possibility of peptic ulcer whenever gastric disturbances recur after gastroenterotomy." He warns against too early and free feeding. "The further surgical treatment of peptic ulcer following gastroenterotomy has given very poor results. Complete recovery is rare, fatal issues frequent. A careful consideration of all these facts should tend to restrict the indication for gastroenterotomy, which otherwise gives such excellent results in certain benign gastric diseases."

The Tests for Occult Blood in the Feces and Their Clinical Significance.—(*Pennsylvania Medical Journal*). Steeles made 265 tests in 48 cases. His results agree with those given by the German observers.

1. In cancer of the stomach or intestines, the test has shown blood in almost every stool passed.

2. In ulcer of the stomach, blood is not, as a rule, found in every stool, but is irregularly present. Sometimes it may miss one or more stools. Under this division of intermittent occult bleeding comes also duodenal ulcer, benign pyloric stenosis and spastic pyloric stenosis.

3. Occult blood is never found in gastritis acida, anacida, or subacida, hyperacidity, hypersecretion (without ulcer), benign dilatation, or neuroses.

GYNECOLOGY.

Sterility in Women.—J. Riddle Goffe, M. D. (*New York Medical Journal*, August 26, 1905), says he considers under three heads the various pathological conditions that obstruct the passage of the ovum into the uterus: (1) Those that relate exclusively to the ovary; (2) those that relate exclusively to the tube, and (3) those in which both ovary and tube are involved.

The ovary may be absent, devoid of Graafian follicles, or incapable of developing them. The most common affections are those that result from inflammation, such as atrophy, cirrhosis, and cystic degeneration.

The most frequent pathological conditions that are the cause of sterility in the tube are catarrhal, gonorrheal, and septic salpingitis pyosalpinx, hydrosalpinx, and hematosalpinx, which contorts the tube, producing a tortuous course, and it finally becomes constricted. A common cause is where the fimbriæ become agglutinated and the potency of the tube absolutely destroyed.

Atrophy of the ovary is beyond surgical interference; hypertrophy and cystic ovaries are to be relieved only by surgical interference.

In cases of tubal trouble, operative procedures seem to be more efficient.

When the fimbriæ are inverted and adherent, he contends that it is a simple matter, under a saline douche, to massage the tubes, rotate them between the fingers, gradually to unfold the fimbriæ and to restore the ampulla to its normal condition. This is far better than amputating the tube.

In cases of acute or chronic salpingitis and the long-standing destructive effects, now quiescent, of inflammatory invasion no longer producing symptoms or palpable by the examining finger, the peritoneal cavity is invaded for the deliberate purpose of relieving the condition of sterility and rendering the patient fruitful. Just what the scope and limitation of conservative work upon the tube may be in the presence of retained pus is still awaiting the decision of further experience. He protests against indiscriminate sacrifice of tubes that are the seat of ectopic gestation. Rupture of the tube and hemorrhage in these cases is not always produced by distension of the tube, but the biological process inherent in the growth of the ovum and placenta erodes the epithelium and eats its way or grows through the wall of the tube and its peritoneal covering. Such cases are peculiarly adapted to such conservative work as opening the tube, evacuating its contents, and stitching up the incision.

Some Gynecologic Superstitions.—S. Waite, M. D. (*American Medicine*, September 2, 1905), says that gynecology has been burdened with numerous dogmatic theories, and they are accepted by the profession without question. Speaking especially of backache and constipation as symptoms to be caused by posterior displacements of the uterus, she shows by statistics that both of these conditions are present in a large percentage of antipositions and absent in a fair per cent. of retropositions.

Waite believes that the statistics, relative to the clinical significance of retroposition of the uterus, bears directly on the amount of unnecessary operating being done under the false impression that the symptoms complained of are due to the position of the uterus, and the complications which are really responsible for the symptoms are overlooked.

Practical Gynecology.—W. A. B. Sellman, M. D. (*Inter. Journal of Surgery*, April, 1905), says observations prove that women not exposed to degenerating influences can compete in strength and endurance with men of their own race. He says there are two periods in woman's life in which she is susceptible to morbid influences, and not being removed will produce either structural or functional disease, viz: Puberty and the menopause. Anemia and chlorosis are the most frequent constitutional maladies which produce amenorrhea in young and unmarried women.

Tubal Tuberculosis.— Dr. C. H. Mayo (*Inter. Journal of Surgery*, July, 1905), says many cases of tubal tuberculosis will be found in chronic and subacute appendicitis. It is advisable in women to always gain an idea of the pelvic conditions, if possible, when the abdomen is open and the diagnosis is questionable; especially is this true if free fluid is found without sufficient active condition of the appendix to account for its production.

Stenosis of the Cervix.—Augustin H. Goelet, New York, in the *International Journal of Surgery*, October, 1905, says stenosis may be due either to a diseased condition of the mucous membrane lining the canal or its glands, or of the underlying structure, and not necessarily to contraction of the muscular fibers. Another and common cause, he says, is mechanical obstruction caused by indurated, hypertrophied granulations at the internal os, which interferes with free drainage from the cavity of the uterus.

He contends that, on the introduction of a sound between periods, nothing is noted, but the increased congestion preceding and attending menstruation causes tumefaction and consequently more or less complete closure of the canal.

Stenosis of the external os is seldom sufficient to produce dysmenorrhea, if we except that due to cicatricial contraction from injury.

Dilatation *per se* will accomplish very little, and it should never be carried to the extent of divulsion or rupture of imaginary constricting bands. He says dilatation should be only sufficient to permit the easy accomplishment of the work to follow, whether it be a curettage, irrigation of the cavity, the introduction of gauze, or the uterine stem. Forcible dilatation serves only to expand the caliber temporarily, and retraction is certain to follow sooner or later.

He further states that results obtained with negative electrolysis is more permanent if employed properly, as it stimulates an altered circulation and nutrition, softens indurated tissue, and effects drainage of the cervical glands, as well as drainage from the uterine cavity.

The sharp curette must be used after the dilatation for the removal of granulations at the internal os, and pure carbolic acid applied to that location *only*, and not into the cavity of the uterus. After a week applications of negative electrolysis are made to the canal by means of the conical electrodes, using size that may be inserted without force. He makes these applications every second or third day, with gradually-increasing intervals, until the cervical structure is softened and the canal remains normally patulous. Never more than a 10 m. current is used for more than three minutes.

The intrauterine stem is limited to those cases of stenosis due to or associated with hyperplasia and induration of the cervical structure and for flexions. It should never be kept in the uterus for a longer period than a week.

BOOK REVIEWS.

Manual of Surgery for Students and Practitioners.—By William Rose, M. B., B. S., London, F. R. C. S., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital, and Albert Carless, M. S., London, F. R. C. S., Surgeon to King's College Hospital and Teacher of Operative Surgery in King's College, London; Examiner in Surgery to Glasgow University. Published by W. M. Wood & Co., 1905.

Six editions in seven years speaks well for so comprehensive a work as Drs. Rose and Carless present to us in their revision of August, 1905. In a one-volume text on surgery and its principles there is probably no better or more comprehensive work available. Much new matter has been added and almost as much modified or revised. Dr. W. D'Este Emery's chapter on Bacteriology is timely, in keeping with the latest knowledge of the subject, and clearly states principles of importance from a surgical standpoint. New chapters on "The Blood in Health and Disease," "Modern Surgical Technique," and "The Surgical Aspects of Gynecology" have been added.

No work of its size gives a better presentation of the surgery of bones and joints, under "Fractures," "Diseases of Bones," "Dislocations," and "Diseases of Joints."

While appendicitis and hernia are presented in an interesting manner, there is no question as to the positiveness of the authors' views.

The closing chapters, on amputations and anesthesia, are certainly practically treated, and round out a work which should be better known in America. It is a characteristically English text-book. B. L. J.

A Manual of Diseases of Infants and Children.—By John Ruhrah, M. D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. 12mo. volume of 404 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Flexible leather, $2.00 net.

Dr. Ruhrah has succeeded in producing a manual which is more than a "compend" and yet a work which the average student will have time to digest. It is to be especially commended in three respects—his pages devoted to infant feeding, therapeutics for children, and pediatric literature. In his section on diseases of the nervous system and of the spinal cord, he introduces conditions more of interest to the pediatrician of long experience.

The text is well illustrated and conveniently arranged and should be a companion to works of greater extent. For daily reference by the busy practitioner or student, it is a work which should hold its place with any. B. L. J.

A Text-Book of Clinical Diagnosis.—By Laboratory Methods. For the use of students, practitioners, and laboratory workers. By L. Napoleon Boston, A.M., M. D., Associate in Medicine and Director of the Clinical Laboratories at the Medico-Chirurgical College, Philadelphia. Second edition, revised and en-

larged. Octavo of 563 pages, with 330 illustrations, including 34 plates, many in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $4.00 net; Sheep or Half Morocco, $5.00 net.

Two editions of this work in one year certainly speaks highly for it, and it is evident thus that this work is in great demand. In reviewing the second edition, we note that many new subjects have been presented, including Biffs' new Hemogelometer, Fickers' Reaction, an illustrated description of the Leishman-Donovan Bodies, Ravold's Test for Albumen, Cammedges' Test for Glycerine, and Cipollinos' Test. He gives much time to animal parasites, malarial and other blood parasites, skin diseases, transudates and exudates. It is certainly a volume every physician or surgeon should have for reference and study. O. W. H.

The Physician's Visiting List (Lindsay & Blakiston's) for 1906.—Fifty-fifth year of its publication. The Dose Table herein has been revised in accordance with the United States Pharmacopœia (1906). Philadelphia: P. Blakiston's Son & Co. (successors to Lindsay & Blakiston), 1012 Walnut Street. Sold by all booksellers and druggists.

Blakiston's Visiting List and Physicians' Account Book needs no intruduction nor does its past reputation call for additional lauding. It is all the busy practitioner could ask for his needs and is as useful to any specialist as to any general practitioner. Its various sizes allow its economical use by all.

Physician's Account Book.—By J. J. Taylor, M. D. Published by the Medical Council, 4105 Walnut Street, Philadelphia, Pa. Patent applied for.

The Physician's Pocket Account Book, published by the Medical Council, is a pocket ledger easy of reference and of convenient pocket size. Space is allotted for debits and credits, addresses and memoranda. Its system is not only simple, but complete. No other book or books are required, and it is of convenient size (4 x 7 inches) for the inside pocket.

Anatomy, Descriptive and Surgical.—By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons; Lecturer on Anatomy at St. George's Hospital Medical School, London. Edited by T. Pickering Pick, F. R. C. S., Consulting Surgeon to St. George's Hospital and to the Victoria Hospital for Children, London; H. M. Inspector of Anatomy in England and Wales; and Robert Howden, M. A., M. B., C. M., Professor of Anatomy in the University of Durham; Examiner in Anatomy in the Universities of Durham and Edinburgh, and to the Board of Education, South Kensington. New American edition. Thoroughly revised and re-edited, with additions by John Chalmers DaCosta, M. D., Professor of Principles of Surgery and Professor of Clinical Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital; Consulting Surgeon to St. Joseph's Hospital. Illustrated with 1,132 elaborate engravings. Lea Brothers & Co., Philadelphia and New York, 1905.

Gray's Anatomy stands to-day in the best condition in which it has ever existed. It is now purely a text-book of anatomy, the histology and embryology being omitted. More space even than that left by the above omission has been given to the best illustrations available, and every region of the body now is fully illustrated. The chapter on the brain and spinal cord, as well as that on the lymphatics, is more fully gone into than ever before. Many good points in this work could be

elaborated in detail, but suffice it to say that we find the present volume exceeds greatly any former editions, any of which was accepted as standard. The present editors' ideas have led him to be radical in his revision, which is highly lauded by those who appreciate a pure and thorough text-book of anatomy.

A Text-Book on the Practice of Medicine.—Second revised edition. By James Maggoffin French. Illustrates by 11 full-page plates and 50 wood engravings. Contains nearly 800 pages. Price $4.00 in extra muslin. Leather, $4.75. William Wood & Co., New York.

This work, as announced by the publishers, is designed for the use of students, who are not supposed to possess any preliminary knowledge of the subjects discussed. It seems unfortunate that a work should be designed for such a class, for, as this work covers the field of internal medicine, not only a preliminary, but advanced, knowledge should have been acquired of the subjects approached in Parts I and III as an introductory to Part II, or the Practice of Medicine. This is obvious when we consider the scope of the work.

It is divided into three Parts. Part I deals with the Principles of Medicine, Part II with the Practice of Medicine, and Part III with Clinical Methods of Examination.

Forty pages are devoted to Part I. This is too brief to give the student an insight into the Principles of Medicine, although the subjects are well selected. General pathology and bacteriology are considered in this division, but with little or no advantage to the student. While this arrangement does not appeal to the reviewer for the best interests of the student, it nevertheless has its place, and it is unfortunate that the more pretentious works on the practice of medicine do not conform to this plan. It is the practitioner that fails to keep up this special study and needs a constant review of the fundamental principles of pathology and bacteriology. Such an arrangement was to be found in the older works on practice, and in this they surpass the works of a later day.

What is true of Part I is also true of Part III, the next to be considered. Forty pages are devoted to Clinical Methods of Examination, chemical and microscopical. Blood, sputum, urine, and stomach contents are studied in this division. The student is supposed to possess an elementary knowledge of the use of the microscope and chemical methods. With few exceptions, the more common and reliable methods are described, with several figures to illustrate the text. These figures, as a rule, are poor indeed and should not have space in a modern book. For instance, figures 48 and 49, to illustrate the gonococci and tubercle bacilli, are crude and worthless and belong to a past age. But that part dealing with the blood is better in this particular, as it has four full-page plates, three of which are found in other parts of the work. These are very creditable, besides some figures in the text of average merit.

The description for staining blood films is not clear enough for the beginner, and the very stain that is the simplest in technique and the most useful for all general purposes is not given. This is Wright's stain and method. This will give a fairly uniform result, although the instructions for preparing the film be not strictly followed.

Part II, or Practical Medicine, constitutes the major portion of the work, covering about 700 pages. This part we commend to the student and the practitioner for quick reference. Except in minor details, it is up to date, and the author has the faculty of expressing himself clearly and, as a rule, accurately. It is impossible to review this in very great detail, but the work is to be judged by selecting some of the more important subjects.

The section on Infectious Diseases comes first, and from this very important group typhoid fever, pneumonia, tuberculosis, and yellow fever are chosen as a type. A reasonable amount of space is devoted to each in proportion to their relative importance; tuberculosis coming in for the greater space. The latter subject is illustrated by three full-page plates from the well-known work of Delafield and Pruden that add value to the article. This part of the work deserves the highest commendation, with one exception. The article on yellow fever is disappointing, and does not reflect the teaching of to-day. The author states that "the bacillus ictoroides of Sanarelli is now generally accepted as the cause" of yellow fever. It is hardly necessary to state since the brilliant work of the United States Army Commission of 1900–1 that the reverse is true. This commission not only failed to find this bacilli in patients suffering from the disease, but in twenty-four cases made cultures on various media from the blood, with negative results. On the other hand, serum filtered through a Berkfeld filter produced the disease, and hence the very reasonable conclusion that the virus was not one of the ordinary bacteria.

The sections on Animal Parasites, Blood and the Ductless Glands, Circulatory, Respiratory, and Digestive Systems, Kidney, Constitutional, and Intoxications, and Miscellaneous Diseases are well prepared, with little for unfavorable comment. It is probably just to correct the author, although the publishers may be at fault and responsible for the statement that "angina pectoris is more common in women than men," the opposite being true in the proportion of probably 10 to 1.

The section on the Nervous System is hardly so satisfactory as other portions of the work. This is always a difficult subject for an author in general practice, and he should invite the collaboration of a specialist in this field. Many of the articles are nothing more than definitions of the diseases under discussion. But a majority of the subjects are as full as the size of the work will admit, especially the more important diseases.

But, taking the work as a whole, it is a very useful little volume and deserves the consideration of the student of medicine who has the necessary training to receive it. M. M. Pearson, *Bristol, Tenn.*

The Era Key to the U. S. P.—A Comple List of the Drugs and Preparations of the United States Pharmacopœia. Eighth decennial revision (1905). Vest-pocket size; 83 pages; price 25 cents. The Pharmaceutical Era, Publishers, 90 William Street, New York.

The publishers announce a new edition of the well-known "Era Key to the U. S. P." whose object is to further the introduction and employment of the official drugs and preparations of our national standard, the United States Pharmacopœia, the eighth revision of which is now in force. The book comes in vest-pocket size and gives in a "nut-shell" all the essential information required by the physician who desires to prescribe pharmacopœia remedies—their official names, synonyms, and constituent parts, with average doses in both metric and English systems. The idea of putting the essential information of the Pharmacopœia in so small a compass is claimed to be original with the publishers, under whose direction the little work was compiled. The busy physician will find it both helpful and suggestive in his effort to prescribe official pharmaceutical preparations.

BOOKS RECEIVED.

We have just received from W. B. Saunders & Company, of Philanelphia, the widely-known medical publishers, an unusually attractive illustrated catalogue of their complete list of publications. It seems to us, in glancing through this catalogue, that a list of the Saunders authors is a census of the leading American and foreign authorities in every branch and specialty of medical science. And new books are being added and new editions issued with a rapidity that speaks well for the success and progressiveness of the house. While comparisons are always odious, still we feel it but justice to say that, in the presentation of facts about the books listed that a probable buyer wishes to know, and also for beauty and durability of mechanical get-up, this catalogue surpasses anything we have heretofore seen. It is truly representative of the house. We understand a copy will be sent free upon request.

Upon the Treatment of the Individual Case in Appendicitis and Movable Kidney.—By Charles C. Allison, M. D., Professor of Principles, Practice, and Clinical Surgery, Creighton Medical College; Surgeon to St. Joseph the Wise Memorial and the Presbyterian Hospitals, etc., Omaha, Neb. Reprint.

The Significance of Sudden Severe Abdominal Pain.—By Ed. A. Babler, M. D., St. Louis. Reprinted from the *New York Medical Journal* and *Philadelphia Medical Journal*.

It is the belief that the profession will be interested in the forthcoming publication of "A Manual and Atlas of Orthopedic Surgery," by Dr. James K. Young, Professor of Orthopedic Surgery, Philadelphia Polyclinic. It is believed that this work is destined to occupy a very important place in medical literature. It is to be a quarto in size, of about 900 pages, and will contain upwards of 800 illustrations.

OPENING OF SOUTHERN RAILWAY'S HARRODSBURG-DANVILLE EXTENSION FOR PASSENGER BUSINESS.

Official announcement has been made by the passenger department of the Southern Railway that the Danville extension, from Harrodsburg to Danville, a distance of nine miles, will be opened for passenger traffic on Friday, December 1st, 1905. The schedule of trains between Louisville and Lexington, and Louisville and Danville has also been officially announced and will go into effect on the same date. But little change in the time of trains has been made and the service between Louisville and Lexington will be as it has been, with the same number of through trains each way every day.

The opening of the new line will considerably reduce the time of the through southern trains on the Southern Railway and the Queen and Crescent Route. Through sleepers will go from St. Louis and Louisville by way of Danville, connecting with the Q. & C. fast trains at that point. With the trains meeting at Danville a distance of thirty-five miles is saved and the time can be shortened.

Lexington as well as Danville will profit by the change in the time. The same number of trains and the same train service will be in effect to Lexington and the new time will be much more convenient for shoppers and others coming to Louisville. The early train out of Louisville for Lexington will be retained. The next train, which now leaves at 7:40 A. M., will leave at 8:00 o'clock and will reach Lexington correspondingly later. The early afternoon train will leave Louisville a few minutes sooner and will make connection for Q. & C. local stations at Lexington.

Under the new arrangement there will be four trains daily without change between Louisville and Lexington in each direction and two trains daily, without change, between Louisville and Danville in each direction.

The track between Harrodsburg and Danville has been used by the freight traffic for several weeks but it was thought best not to run passenger trains over it until it had been settled finally and firmly.

The line between Harrodsburg and Burgin will be operated on a much more frequent schedule than before. One train will be used and it will make practically hourly trips between these two points, connecting at Burgin with all Q. & C. trains. This service will give Harrodsburg two ways to connect with the Q. & C.

The following is the official announcement of train service as made by the company:

Train No. 1 will leave Louisville at 8:00 A. M. instead of 7:40 A. M. with through equipment for both Lexington and Danville, arriving at those points at 10:55 A. M. and 11:15 A. M. respectively, stopping only at important points enroute. This train will also carry St. Louis sleeper through to Danville.

Train No. 23 will leave Louisville at 7:45 P. M. instead of 7:25 P. M. with through equipment for both Lexington and Danville, arriving at those points at 10:45 P. M. and 11:00 o'clock P. M. respectively, stopping only at important stations. This train will also carry Parlor Cafe Car from St. Louis through to Danville, serving supper leaving Louisville.

Train No. 5 will leave Louisville at 6:10 A. M. as at present, making local stops and arriving at Lexington at 9:40 A. M. This train will not have connection for Danville Branch points, but will connect at Lexington with Q. & C. Route train for local stations on that road, arriving Danville at 11:05 A. M.

Train No. 9 will leave Louisville at 3:30 P. M., twenty minutes earlier than at present, making local stops and arriving at Lexington at 6:40 P. M. This train will not have connection for Danville Branch points but will connect with Q. & C. Route train No. 9 for local points on that line, arriving Danville at 8:03 P. M.

Train No. 24 will leave Danville at 5:30 A. M. with through coaches and parlor cafe car, for Louisville and St. Louis, arriving at former point at 8:45 A. M. and St. Louis at 6:12 P. M. Connecting train will leave Lexington at 5:45 A. M. with through coaches for Louisville, which will be attached to the Danville train at Lawrenceburg.

Train No. 2 will leave Danville at 4:45 P. M. with through coaches and also St. Louis sleeper, arriving Louisville at 8:00 P. M., leaving Louisville at 10:15 P. M. and reaching St. Louis at 7:32 A. M. Connecting train will leave Lexington at 5 P. M. with through coaches for Louisville, which will be attached to the Danville train at Lawrenceburg.

Train No. 10 will leave Lexington at 7:30 A. M. as at present, making local stops and arriving Louisville at 10:40 A. M. This train will make connection at Lexington with Q. & C. Route, local train leaving Danville at 6:10 A. M.

Train No. 6 will leave Lexington at 3:05 P. M. as at present, making local stops and arriving Louisville at 6:15 P. M. This train will connect at Lexington with Q. & C. Route, local train leaving Danville at 1:50 P. M.

All of the above trains will run daily.

Between Harrodsburg and Burgin a frequent service will be maintained through the day, trains leaving Harrodsburg as follows: 6:05, 10:25, 11:15 A. M. and 1:40, 4:10 and 5:15 P. M. In the return directions trains will leave Burgin at 5:30, 6:40, 11:00 A. M. and 1:00, 2:15 and 4:40 P. M.

These trains will run daily. The running time between the two points will be from ten to fifteen minutes.

There will be no changes in the train service between Versailles and Georgetown.